

SECOND EDITION



ANCIENT EGYPTIAN FURNITURE

Volume I: 4000–1300 BC

Geoffrey Killen



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ANCIENT EGYPTIAN FURNITURE

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VOLUME I

4000–1300 B.C.

GEOFFREY KILLEN

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Front cover: A painted tomb wall scene depicting carpenters working in a carpentry workshop. Tomb of Rekhmira, TT 100, 18th Dynasty, Sheikh Abd el-Qurna. Photograph courtesy of Lorraine March-Killen.

Contents

<i>List of Figures</i>	vii
<i>List of Plates</i>	ix
<i>Acknowledgements</i>	xiii
<i>Abbreviations and Sigla</i>	xv
Chapter 1. Furniture Materials	1
Chapter 2. Tools	13
Chapter 3. Bedframes	33
Chapter 4. Stools	59
Chapter 5. Chairs	91
Chapter 6. Tables	117
Chapter 7. Vase Stands	127
<i>Catalogue of Museum Collections</i>	135
<i>Bibliography</i>	163

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List of Figures

All the figures were drawn for this book by the Author. Where appropriate they are scaled in millimetres.

Figure 1.	Scarf joint.	7
Figure 2.	Carpentry workshop scene. (Tomb painting, Thebes, Tomb of Rekhmira, TT 100, 18th Dynasty).	7
Figure 3.	Predynastic burial. (Bahan, Grave 17:86).	34
Figure 4.	Predynastic burial. (Bahan, Grave 17:7).	34
Figure 5.	Bedframe construction. Medelhavsmuseet, Stockholm. MM 10.232.	34
Figure 6.	Bedframe. Manchester University Museum, 1st Dynasty, 5429.	35
Figure 7.	Bedframes. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).	37
Figure 8.	Bedframes. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).	37
Figure 9.	Bedframes. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).	38
Figure 10.	Bedframes. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).	38
Figure 11.	Bedframe. (Queen Hetepheres I, Giza, 4th Dynasty), Egyptian Museum, Cairo. JE 53261.	39
Figure 12.	Bedframe. (Queen Hetepheres I, Giza, 4th Dynasty), Egyptian Museum, Cairo. JE 53261.	39
Figure 13.	Men stringing a bedframe. (Tomb painting, Thebes, Tomb of Menkheperaseneb TT 112, 18th Dynasty).	39
Figure 14.	Bedframe. Kerma.	41
Figure 15.	Folding bedframe. Tomb of Tutankhamun, Egyptian Museum, Cairo. JE 62018.	43
Figure 16.	Folding bedframe, detail of hinge. Tomb of Tutankhamun, Egyptian Museum, Cairo. JE 62018.	44
Figure 17.	Folding bedframe, detail of hinge. Tomb of Tutankhamun, Egyptian Museum, Cairo. JE 62018.	45
Figure 18.	Bed canopy. (Queen Hetepheres I, Giza, 4th Dynasty), Egyptian Museum, Cairo. JE 57711.	46
Figure 19.	Stool. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).	60
Figure 20.	Stool. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).	60
Figure 21.	Folding stool. British Museum, London. EA 29284.	62
Figure 22.	Low stool. British Museum, London. EA 46705.	64
Figure 23.	Round legged stool. British Museum, London. EA 2472.	68
Figure 24.	Chair. (Stele of Prince Nisuheqet, Tomb 964 H8, Helwan, 2nd Dynasty).	92
Figure 25.	Chair. (Stele of Sehefner, Tomb 2146E, Saqqara, 2nd Dynasty).	92
Figure 26.	Chair. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).	92
Figure 27.	Chair. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).	92

Figure 28.	Middle Kingdom chair designs.	93
Figure 29.	Chair. British Museum, London. EA 2479.	95
Figure 30.	Chair. British Museum, London. EA 2480.	96
Figure 31.	Royal Armchair. (Queen Hetepheres I, Giza, 4th Dynasty), Egyptian Museum, Cairo. JE 53263.	99
Figure 32.	Gold throne. Tomb of Tutankhamun, 18th Dynasty, Egyptian Museum, Cairo. JE 62028.	101
Figure 33.	Table. Manchester University Museum, 1st Dynasty, 5456.	118
Figure 34.	Table. (Tomb of Perpaut). British Museum, London. EA 2469.	118
Figure 35.	Vase stand. (Tomb painting, Tomb of Mereruka, Saqqara, 6th Dynasty).	128
Figure 36.	Vase stand. (Tomb painting, Tomb of Mereruka, Saqqara, 6th Dynasty).	128
Figure 37.	Vase stand. British Museum, London. EA 2470.	128
Figure 38.	Vase stand. British Museum, London. EA 2471.	129

List of Plates

Plate 1.	Bedframe leg. 20th Dynasty. Tomb of Rameses IX. British Museum, London. EA 21574.	11
Plate 2.	Scribing instrument. New Kingdom. British Museum, London. EA 15742.	21
Plate 3.	Try Square. Ptolemaic. Petrie Museum of Egyptian Archaeology. UC 6925.	21
Plate 4.	Adze blades. Petrie Museum of Egyptian Archaeology. Top. UC 19836; Middle. UC 19837; Bottom. UC 19838.	22
Plate 5.	Adze blade. British Museum, London. EA 22841.	22
Plate 6.	Adze. British Museum, London. EA 6061.	23
Plate 7.	Adze. British Museum, London. EA 26279.	23
Plate 8.	Adze. British Museum, London. EA 22834.	24
Plate 9.	Axe blade. 1st Dynasty. Petrie Museum of Egyptian Archaeology. UC 16174.	24
Plate 10.	Chisels. Petrie Museum of Egyptian Archaeology. Right. UC 19839; Middle top. UC 19840; Middle bottom. UC 19841; Left. UC 19842.	25
Plate 11.	Mortise chisel. British Museum, London. EA 6053.	26
Plate 12.	Firmer chisel. British Museum, London. EA 6045.	26
Plate 13.	Iron model woodworking chisels. Tomb of Tutankhamun. JE 61295, JE 61297, JE 61299, JE 61301, JE 61304, JE 61307. Carter Nos 316 A,C,E,G,J,M. Burton Photograph p1052.	26
Plate 14.	Sharpening hone. British Museum, London. EA 36728.	27
Plate 15.	Oil flask. British Museum, London. EA 6037.	27
Plate 16.	Wooden mallet. British Museum, London. EA 41679.	28
Plate 17.	Saw knife. Badari. British Museum, London. EA 62274.	28
Plate 18.	Saw. 1st Dynasty. British Museum, London. EA 66064.	29
Plate 19.	Saw. New Kingdom. British Museum, London. EA 6046.	29
Plate 20.	Pullsaw. New Kingdom. British Museum, London. EA 30245.	29
Plate 21.	Bow and drill stock with stone cup. Petrie Museum of Egyptian Archaeology. Bow UC 7085; stock UC 7084; stone cup UC 19835.	30
Plate 22.	Bow and Drill. New Kingdom. British Museum, London. Bow. EA 6040; Drill. EA 6042.	31
Plate 23.	Awl. New Kingdom. British Museum, London. EA 6055.	31
Plate 24.	Bedframe pole with webbing. Manchester University Museum. 5465.	47
Plate 25.	Bedframe pole with webbing. Manchester University Museum. 5465.	47
Plate 26.	Bedframe types. Tarkhan. 1st Dynasty. Petrie Museum of Egyptian Archaeology.	48

Plate 27.	Bedframe. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.617.	49
Plate 28.	Bedframe. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.617.	49
Plate 29.	Bedframe. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.617.	50
Plate 30.	Bedframe. Medelhavsmuseet, Stockholm. MM 10.232.	50
Plate 31.	Bedframe. Tarkhan. 1st Dynasty. Manchester University Museum. 5429.	51
Plate 32.	Bedframe. Tarkhan. 1st Dynasty. Manchester University Museum. 5429.	51
Plate 33.	Bedframe. Tarkhan. 1st Dynasty. Manchester University Museum. 5429.	52
Plate 34.	Bedframe. Tarkhan. 1st Dynasty. Manchester University Museum. 5429.	52
Plate 35.	Bedframe. New Kingdom. Kunsthistorisches Museum, Vienna. 6128.	52
Plate 36.	Bedframe (Reproduction). Original from the tomb of Queen Hetepheres I, Giza. Reproduction in the Museum of Fine Arts, Boston. 29.1858.	53
Plate 37.	Model Bedframe. 12th Dynasty. Tomb of Sitrennut. Petrie Museum of Egyptian Archaeology. UC 16139.	53
Plate 38.	Bedframe. New Kingdom. Deir el-Medina. Narodowe Muzeum, Warsaw. 139068 MNW.	54
Plate 39.	Bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62017, Carter No. 80. Burton Photograph p0067.	54
Plate 40.	Bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62016, Carter No. 47. Burton Photograph p0063.	55
Plate 41.	Bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62014, Carter No. 466. Burton Photograph p1286.	55
Plate 42.	Folding bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62018, Carter No. 586. Burton Photograph p1287.	56
Plate 43.	Folding bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62018, Carter No. 586. Burton Photograph p1479a.	57
Plate 44.	Bed canopy (Reproduction). Original from the tomb of Queen Hetepheres I, Giza. Reproduction in the Museum of Fine Arts, Boston. 38.873.	56
Plate 45.	Crude wooden stool. Kahun. 12th Dynasty. Manchester University Museum. 261.	71
Plate 46.	Crude wooden stool. Kahun. 12th Dynasty. Manchester University Museum. 261.	71
Plate 47.	Simple wooden stool. Early Dynastic Period. Royal Ontario Museum, Toronto. 910.37.14.	72
Plate 48.	Statue of Ankhwa. 3rd Dynasty, Saqqara, British Museum, London. EA 171.	72
Plate 49.	Stool with lion shaped legs. Middle Kingdom. Museum Gustavianum, Uppsala University. B-2.	73
Plate 50.	Stool with lion shaped legs. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8614.	73
Plate 51.	Simple stool with shaped legs. Beni Hasan. 9th-12th Dynasty. Ashmolean Museum, Oxford. AN1896-1908 E.4162.	74
Plate 52.	Simple stool with shaped legs. Beni Hasan. 9th-12th Dynasty. Ashmolean Museum, Oxford. AN 1896-1908 E.4162.	74
Plate 53.	Simple stool with shaped legs. Beni Hasan. 9th-12th Dynasty. Ashmolean Museum, Oxford. AN 1896-1908 E.4162.	75
Plate 54.	Simple stool with shaped legs. 18th Dynasty. National Museums of Scotland, Edinburgh. 1956.110.	76
Plate 55.	Folding stool. Metropolitan Museum of Art, New York. MMA 12.182.58.	76
Plate 56.	Folding stool. Middle Kingdom. Royal Ontario Museum, Toronto. 910.37.17.	76
Plate 57.	Folding stool. Tomb of Ani. New Kingdom. British Museum, London. EA 29284.	77
Plate 58.	Folding stool. Tomb of Ani. New Kingdom. British Museum, London. EA 29284.	77
Plate 59.	Folding stool. Tomb of Ani. New Kingdom. British Museum, London. EA 29284.	77
Plate 60.	Folding stool. Tomb of Ani. New Kingdom. British Museum, London. EA 29284.	78

Plate 61.	Folding stool. 18th or 19th Dynasty. Royal Ontario Museum, Toronto. 914.2.1.	78
Plate 62.	Folding stool. 18th Dynasty. Manchester University Museum. 4229.	79
Plate 63.	Folding stool. 18th Dynasty. Manchester University Museum. 4229.	79
Plate 64.	Stool. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62035, Carter No. 83. Burton Photograph p0353.	80
Plate 65.	Low stool. 18th Dynasty. British Museum, London. EA 46705.	80
Plate 66.	Low stool. 18th Dynasty. British Museum, London. EA 46705.	81
Plate 67.	Low stool. Medelhavsmuseet, Stockholm. MM 19.671.	81
Plate 68.	Three legged stool. Tarkhan, 1st Dynasty. UC 17173. Petrie Museum of Egyptian Archaeology.	82
Plate 69.	Three legged stool with dished seat. British Museum, London. EA 2481.	82
Plate 70.	Three legged stool. 18th or 19th Dynasty. National Museums of Scotland, Edinburgh. 1956.107.	83
Plate 71.	Three legged stool, Tomb of Tutankhamun, Egyptian Museum, Cairo. JE 62043, Carter No. 412, Burton Photograph p1670.	83
Plate 72.	Stool. New Kingdom. National Museums of Scotland, Edinburgh. 1956.111.	84
Plate 73.	Stool with concave seat. Narodowe Muzeum, Warsaw. 143344 MNW (on loan from Louvre Museum, Paris E 3858).	84
Plate 74.	Lattice stool. 18th Dynasty. Brooklyn Museum, New York. 37.45E.	85
Plate 75.	Lattice stool. Medelhavsmuseet, Stockholm. MM 19.668.	85
Plate 76.	Lattice stools. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8512 and 8511.	86
Plate 77.	Lattice stool. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62041, Carter No. 81. Burton Photograph p0352.	86
Plate 78.	Stool. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62038, Carter No. 467. Burton Photograph p1295.	87
Plate 79.	Round stool leg. 18th Dynasty. Manchester University Museum. 542.	87
Plate 80.	Round stool leg. 18th Dynasty. Manchester University Museum. 542.	88
Plate 81.	Round stool leg. 18th Dynasty. Manchester University Museum. 542.	88
Plate 82.	Round legged stool. 18th Dynasty. British Museum, London. EA 2472.	89
Plate 83.	Round legged stool. 18th Dynasty. British Museum, London. EA 2472.	89
Plate 84.	Round legged stool. 17th or 18th Dynasty. Metropolitan Museum of Art, New York. MMA 14.10.4.	90
Plate 85.	Chair. Nag el-Deir. 18th Dynasty. Phoebe A. Hearst Museum of Anthropology, University of California, Berkeley. 6-2062.	103
Plate 86.	Chair. 18th Dynasty. British Museum, London. EA 2479.	104
Plate 87.	Chair. 18th Dynasty. Brooklyn Museum, New York. 37.40E.	105
Plate 88.	Chair. 18th Dynasty. British Museum, London. EA 2480.	106
Plate 89.	Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859.	107
Plate 90.	Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859.	107
Plate 91.	Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859.	108
Plate 92.	Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859.	108
Plate 93.	Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859.	109
Plate 94.	Chair. 18th Dynasty. Metropolitan Museum of Art, New York. MMA 12.182.28.	109

Plate 95.	Chair. 18th Dynasty. National Museums of Scotland, Edinburgh. 1956.106.	110
Plate 96.	Chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62032, Carter No. 349. Burton Photograph p1293.	111
Plate 97.	Chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62029, Carter No. 87. Burton Photograph p0148.	112
Plate 98.	Armchair (Reproduction). Original in the tomb of Queen Hetepheres I, Giza. Reproduction in the Museum of Fine Arts, Boston. 38.957.	112
Plate 99.	Chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62033, Carter No. 39. Burton Photograph p0143.	113
Plate 100.	Ceremonial chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62030, Carter No. 351. Burton Photograph p1290.	114
Plate 101.	Ceremonial chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62030, Carter No. 351. Burton Photograph p1291.	115
Plate 102.	Gold throne. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62028, Carter No. 91. Burton Photograph p0154.	116
Plate 103.	Table. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.603.	121
Plate 104.	Table. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.603.	121
Plate 105.	Table. Tarkhan. 1st Dynasty. Manchester University Museum, Manchester. 5456.	122
Plate 106.	Table. Tarkhan. 1st Dynasty. Manchester University Museum, Manchester. 5456.	122
Plate 107.	Table. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8258.	123
Plate 108.	Table. 17th or 18th Dynasty. Metropolitan Museum of Art, New York. MMA 14.10.5.	123
Plate 109.	Table. 18th Dynasty. Brooklyn Museum, New York. 37.41E.	124
Plate 110.	Table. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8432.	124
Plate 111.	Three-legged table. British Museum, London. EA 2469.	125
Plate 112.	Three-legged table. British Museum, London. EA 2469.	125
Plate 113.	Three-legged table. British Museum, London. EA 2469.	126
Plate 114.	Reed and rush table. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8343.	126
Plate 115.	Vase stand. Old Kingdom. Musée des Beaux-Arts de Limoges. E 958.	131
Plate 116.	Vase stand. 18th Dynasty. British Museum, London. EA 2470.	132
Plate 117.	Vase stand. 18th Dynasty. British Museum, London. EA 2470.	133
Plate 118.	Vase stand. 18th Dynasty. British Museum, London. EA 2471.	134

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18th July 1978 (first edition)
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Abbreviations and Sigla

Museum Catalogue Abbreviations

h	height
w	width
l	length
t	thickness
d	depth
dia	diameter
	Badarian Period (5500–4000 B.C.)
	Naqada I (4000–3500 B.C.)
	Naqada II (3500–3100 B.C.)
EDP	Early Dynastic Period (3100–2686 B.C.)
OK	Old Kingdom (2686–2181 B.C.)
FIP	First Intermediate Period (2181–2055 B.C.)
MK	Middle Kingdom (2055–1650 B.C.)
SIP	Second Intermediate Period (1650–1550 B.C.)
NK	New Kingdom (1550–1069 B.C.)
TIP	Third Intermediate Period (1069–747 B.C.)
LP	Late Period (747–332 B.C.)
PP	Ptolemaic Period (332–30 B.C.)
RP	Roman Period (30 B.C.–395 A.D.)
Coptic	395 A.D.–c. 641 A.D.
Meroitic	Butana region of Sudan (c.300 B.C.–350 A.D.)
B.C.	Before Christ
A.D.	Anno Domini
Cem.	Cemetery
V.I.	Plates and Figures found in Volume I (Killen 1980; Killen 2017A).
V.II.	Plates and Figures found in Volume II (Killen 1994; Killen 2017B).
V.III.	Plates and Figures found in Volume III (Killen 2017C).

Museum and Society Inventory Abbreviations

ÄM	Staatliche Museen zu Berlin, Ägyptisches Museum.
EA	Department of Ancient Egypt and Sudan, British Museum.
EES	Egypt Exploration Society.
JE	Journal de Entrée, Egyptian Museum, Cairo.
MM	Medelhavsmuseet, Stockholm, Sweden.
MMA	Metropolitan Museum of Art, New York.
UC	Petrie Museum of Egyptian Archaeology, University College London.

Bibliographical Abbreviations

ASAE	Annales du Service des Antiquités de l’Egypte.
BSAE	British School of Archaeology in Egypt.
CUP	Cambridge University Press.
EEF	Egypt Exploration Fund.
IFAO	Institut Français d’Archéologie Orientale.
JTHS	Journal of the Tool and Trades History Society.
TATHS	Tool and Trades History Society.
TT	Private Tomb numbers in Western Thebes.

Sigla

§	Section Sign.
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Chapter 1

Furniture Materials

1. Timber

Timber as used in carpentry and joinery was a scarce material in ancient Egypt. Most of the timber indigenous to the country was, and is, either too small or of too poor quality to be used in furniture production. Therefore, timber had to be imported into Egypt, principally from those areas close to the Eastern Mediterranean Sea which supported a wide variety of good quality timbers. Importing timber began on a large scale at the beginning of the 3rd Dynasty, 2686 B.C., being mainly used in architectural works, but an offshoot of this industry was a dramatic change in both furniture design and manufacture. This is immediately evident when looking at stelae, reliefs and paintings of this period (Quibell 1913: pls. XVII–XX).

The identification and dating of ancient timbers used in Egypt had not been undertaken on a wide scale by museums and institutions until the latter part of the twentieth century. One of the problems with timber identification is that the grain has to be examined under x100 magnification, for accurate determination of the timber. This means that a small clean cut sample has to be prepared from the object. Naturally, not many museums were willing to expose objects to this treatment, especially those articles which are on permanent exhibition. However, the value of scientific research into timber identification and dating is now accepted and is producing some valuable information into how different wood types supported the needs of ancient civilizations. This has led many leading museums to initiate programmes of research into examining the products they preserve and identifying the wood from which they were manufactured. This approach has been employed by Dr Caroline Cartwright whose work on analysing timbers used to manufacture coffins and mummy portraits has significantly increased our knowledge of the use of native and imported woods at different periods in Egypt (Cartwright 1997: 106–111). For

the furniture historian and technologist studying the timber from which an artefact was produced is very important. The introduction of certain timbers indicates the use of either a new technology, for example steam bending and load bearing capability or trading opportunities with those outside Egypt's sphere of influence. Each timber has an individual quality of working, and the potential of each was quickly identified by Egyptian carpenters. They determined through experience, the capabilities of each timber, very much like the modern master carpenter.

The first section of this chapter is devoted to individual timber species whether native or imported into Egypt, and shows each timber's characteristics and ancient uses. Since the work undertaken by the Director and his staff at the Royal Botanic Gardens, Kew in analysing the ancient timbers from Egypt preserved in that museum for the first edition of this work, our knowledge of timber use in Egypt has improved and is now recorded in the chapter "Wood" see (Gale *et al.* 2000: 334–371).

Acacia (Acacia)

Many types of acacia grow in Egypt, and until the 3rd Dynasty would have been the most widely used indigenous timber. Some of them and in particular *A. nilotica* were valuable as furniture timber. Other uses which are also known are in coffin parts and constructional work (Gale *et al.* 2000: 335–336, fig. 15.1). The species of acacia overall was an important source of raw materials to the ancient Egyptian until the Old Kingdom. The flowers of the tree were used in collars, and gum Arabic was obtained from *A. senegal* which grew in Nubia, the gum being mixed with coloured pigments to produce paint.

Ash (Fraxinus)

The ash (*Fraxinus excelsior*) which is a hardwood and commonly known as the European ash, is distributed

widely and is found in Western Asia and on the North African continent. Another variety (*F. ornus*) or flowering ash is also commonly found in Europe and Asia Minor particularly in Syria. *Fraxinus excelsior* can reach heights of 33 metres to 43 metres and attains a trunk diameter of between 0.75 to 1.75 metres. It is usually a white timber although it can darken to a creamy brown; it has very good seasoning qualities with little possibility of splitting. Ash is a very tough timber and was used commonly as the hafts of axes, adzes and axles (Gale *et al.* 2000: 341). It also has excellent steam bending properties, and artificial bending of timber is illustrated in a Middle Kingdom tomb, where a wooden stick is shown being heated over a basin of hot water and being bent by a carpenter (Newberry 1893: pl. VII). From the tomb of Tutankhamun a compound bow JE 61534, Carter No. 370 nn, was also identified as being ash. This timber may well have been used as veneer in ancient times (Carter and Mace 1923: 114; Lucas 1962: 429 ff; McLeod 1970: 21).

Birch (*Betula*)

The Silver Birch (*B. pendula*) was probably used at some period by ancient Egyptian craftsmen although its use is poorly attested (Gale *et al.* 2000: 336–337, fig. 15.2). The timber is well established in Western Asia although it prefers those cooler climates of Northern Europe. It can grow to heights of around 20 metres but during natural seasoning has been known to warp badly.

Box (*Buxus*)

The common Box (*B. sempervirens*) is found in Europe, Western Asia and North Africa. It is known that it was used for inlay and that it was decoratively turned during ancient times (Gale *et al.* 2000: 337, fig. 15.3). This slow growing bush type tree has a yellow timber, and only attains a height of up to 10 metres.

Carob (*Ceratonia*)

The carob (*Ceratonia siliqua*) used by Egyptians came from both Western Asia and those lands to be found at the southern end of the Red Sea (Gale *et al.* 2000: 338, fig. 15.4). From the reign of Thutmose III (1479–1425 B.C.) may be gauged the quantity of carob-wood entering Egypt from ancient records. During the 38th year of his reign is recorded a Syrian tribute of ivory and carob-wood (Breasted 1906: Vol. II, § 509). Also in that year a further tribute is shown to have come from Arrapachitis, and consisted of two blocks of copper, 65 logs of carob-wood and all sweet woods of the country (Breasted 1906: Vol. II, § 512).

Cedar (*Cedrus*)

Three main varieties of cedar were used in ancient Egypt. *C. libani* from the Lebanon would have been the most widely used. Atlas cedar (*C. atlantica*) from the Atlas Mountains of North Africa and to a lesser extent *C. deodara* which is found in the dense forests

of Afghanistan were used. The cedar tree is a very fine furniture producing timber, although the species *C. libani* is of poorer quality than some of the genus, being very soft with a rough grain and subject to shrinkage during natural seasoning. Even with these inferior characteristics it was widely used by Egyptian carpenters, who found it better to work with than native timbers.

During the reign of Sneferu (2613–2589 B.C.) we read on the Palermo Stone that Sneferu built sixty great ships to go to the Syrian coast. There, Egyptians felled great trees from the Lebanon's forests and towed the logs back to Egypt where they were used on large scale building construction and to a limited extent for furniture and coffin manufacture. This practice is still continued to the present day. The Palermo Stone is part of a large basalt monument; fragments are found preserved at the Egyptian Museum, Cairo and the Petrie Museum, University College London. This monument records the annals of Egypt from the predynastic kings to a date late in the 5th Dynasty. Its surface is divided into horizontal registers, which are further divided vertically into compartments, one for each regnal year, in which the name and principal events of the year were inscribed with the height of the inundation below, (For the record here alluded to, see Breasted 1906: Vol. I, § 146).

C. libani grows in groves in the Lebanon at heights of 1,000 metres above sea level, and is a reasonably fast-growing tree, reaching heights of between 20 and 33 metres. As with most cedars it is distinctly scented and produces a reddish brown timber. Although it has disadvantages in its use, the Egyptian carpenter fully exploited this timber. The large shrines discovered in the tomb of Tutankhamun as well as a chair (Egyptian Museum, Cairo, JE 62029) were made in cedar (Gale *et al.* 2000: 349–350, fig. 15.13).

Cypress (*Cupressus*)

The cypress which was imported into Ancient Egypt would have been the variety (*Cupressus Sempervirens*). The tree, which is coniferous, belongs to the Cupressaceae family and grows on low dry sandy soil, attaining a height of 30 metres. It would have been imported with cedar, but in smaller quantities, for only a few small specimens have been identified (Gale *et al.* 2000: 350, fig. 15.14). It is not until the New Kingdom that larger specimens are discovered. A fine example, which is very late, 30.1894/3, is preserved in the museum of the Royal Botanic Gardens, Kew.

Date Palm (*Phoenix dactylifera*)

This tree is usually quite small, growing to heights which do not exceed 20 metres. It is indigenous to Egypt and its fruit has proved to be a most popular food. The tree's bark is of characteristic form, being made of the pruned stubs of old leaf stems. The tree was cultivated from a very early period and would have been a totally unsatisfactory

furniture timber. The timber is very soft and its grain is composed of loose stringy fibres. Old trees which had come to the end of their fruit bearing life were often used as beams for houses, the leaves for basketry, the bark as fuel and the stalks of the fruit were plaited together to make cord and string (Gale *et al.* 2000: 347–348). Apart from the fruit the sap of the timber could be fermented and used as a beverage.

Dom Palm (*Hyphaene thebaica*)

The Dom Palm, common to Upper Egypt, could have been used in furniture manufacture. The timber of this tree is very hard, particularly the outer layers, and it would have been difficult to fell with early copper axes (Gale *et al.* 2000: 347).

The fruit of the Dom Palm is commonly discovered in predynastic graves and was used widely in conjunction with early bowdrills as the cup which was placed over the sheath of the drill bit.

Ebony (*Dalbergia*)

Ebony, in Egyptian, *hbn*, is a dark jet black timber, very heavy and with a dense grain. It is resistant to attack by insects, is durable, and difficult to steam bend. The timber seasons exceptionally well without cracking or splitting. The term ebony has been confused with two different timbers. Firstly, *Diospyros* is discovered in several places, *Diospyros crassiflora* and *Diospyros Piseatoria* are both found in tropical areas of West Africa, while *Diospyros ebenum* is indigenous to Sri Lanka and *Diospyros melanoxylon* to India. No variety was grown in Egypt or close to Egyptian borders. It is possible that *Diospyros ebenum* grew in parts of Ethiopia. It would seem that specimens of ebony found in Egypt, and referred to in this work, are in fact *Dalbergia melanoxylon* which is commonly known as African Blackwood and is not a member of the *Diospyros* family (Gale *et al.* 2000: 338–339, fig. 15.5). This timber was to be found in Nubia where it grows to heights of 10 metres. The heartwood only of *Dalbergia melanoxylon* is dark black or sometimes brown with flashes of black. It seems likely that predynastic objects which are called ebony are in fact African Blackwood. During the 6th Dynasty, 2345–2181 B.C., Egyptian explorers journeyed into Nubia, and on one expedition recorded they brought back 300 asses laden with ebony and ivory.

By the New Kingdom Egyptian explorers had certainly penetrated as far as Ethiopia, in the mortuary temple of Queen Hatshepsut at Deir el-Bahri, a wall relief shows Egyptians removing branches from ebony trees in the land of Punt (Naville 1898: 15, pls. LXX, LXXI).

During the reign of Thutmose III (1479–1425 B.C.) vessels loaded with ebony and other exotic timbers such as cinnamon wood and khesytwood were brought back after an expedition to Punt along the Red Sea (Breasted 1906: Vol. II, § 265). Another record from the tomb of Puyemre,

TT 39 at Thebes, records that ebony was brought back from Asia on the shoulders of slaves (Davies 1922: 103, pl. XIII). Ebony was mainly used in conjunction with ivory; both cut into sheets of veneer and glued or pinned to the surfaces of caskets and furniture of poor quality timber during the Early Dynastic Period and Old Kingdom.

From the furniture of Queen Hetepheres I (c. 2613 B.C.) strips of ebony were used on the back of the carrying chair now in the Egyptian Museum, Cairo (Reisner and Smith 1955: 33 f., fig. 34, and pls. 27–29). The amount of ebony which was imported during the first two Kingdoms was possibly used to cover and decorate wood. It is not until the New Kingdom, and the increased expeditions and tributes, that it became possible to construct furniture entirely of ebony. Bedframes from Kerma have been discovered dating from the Second Intermediate Period, the timber used is probably African Blackwood (Reisner 1923: 213–223). A very fine solid ebony bedframe was discovered in the tomb of Tutankhamun and is preserved in the Egyptian Museum, Cairo, JE 62016. Indeed, during the 18th Dynasty, Amenhotep III (1390–1352 B.C.) sent four ebony bedframes with an ebony headrest, ten ebony footstools and six ebony chairs to the King of Babylon and thirteen ebony chairs to the King of Arzawa (Mercer 1939: 17 and 185).

Elm (*Ulmus*)

The elm (*Ulmus minor*) is found in Western Asia, it attains the height of 40 metres with an overall trunk diameter of 1.7 metre. The steam bending qualities are better than ash and this, combined with the natural toughness and hardness of the timber, made it ideal for use by ancient wheelwrights to construct chariot bodies, wheels, spokes and axles (Gale *et al.* 2000: 346). It may be noted that the Hyksos rulers (1650–1550 B.C.) who had migrated into Egypt during the Middle Kingdom employed horse drawn chariots as part of their military strategy to subjugate the inhabitants of the Egyptian delta. The Hyksos came from those regions such as Palestine where the elm was plentiful. In furniture it would have been used for large constructional pieces, for the nature of the timber lends itself to such work.

Fig (*Ficus carica*)

The fig is a very common tree found throughout the southern Mediterranean, being mainly used for the cultivation of its fruit. It is not widely known as a timber producing tree as it grows to less than 10 metres and usually in bush form.

Fir (*Abies*)

The variety of fir (*Abies cilicica*) was used in ancient Egypt and grew in Western Asia. Being a tall tree of heights of up to 30 metres it would have been used in construction, boat building and the manufacture of flag poles (Gale *et al.* 2000: 348–349, fig. 15.12).

Hornbeam (*Carpinus*)

Hornbeam (*Carpinus betulus*) is native to the more temperate areas of Europe and Western Asia. The tree grows to between 16 and 26 metres in height and with a trunk diameter of 1 metre. The timber is extremely hard with a dense grain and it has good steam bending properties.

Juniper (*Juniperus*)

Juniperus phoenicea and *Juniperus excelsa* are varieties of timber which are widely distributed through Western Asia. The timber is commonly confused with the cypress, of which family (*Cupressaceae*) Juniper is a member. The main use of this rich timber was for incense (Gale *et al.* 2000: 351, fig. 15.15).

Lime (*Tilia*)

The Lime (*Tilia*), is widely distributed throughout Southern Europe and Western Asia and was used in Egypt during the Late Period. It grows to a height of 33 metres with a trunk diameter of 1.3 metres (Gale *et al.* 2000: 345–346).

Maple (*Acer*)

Acer campestre is a small species of maple which grows in Western Asia. It has been found to have been used in the floor frame of the chariot preserved in the Museo Archeologico Nazionale di Firenze 2678 (Gale *et al.* 2000: 336).

Oak (*Quercus*)

From the tomb of Tutankhamun dowels of oak were found in the Pharaoh's sarcophagus (*Quercus cerris*) (Carter 1927: 39). This particular variety grows chiefly in Asia Minor and is commonly known as Turkish Oak. We may assume that by the 18th Dynasty trading relations existed between these two countries, which possibly accounts for small quantities of oak entering Egypt. No large pieces of furniture have been positively identified as being made from oak (Gale *et al.* 2000: 344).

Other oaks which grew in the Mediterranean basin may have also been used by Egyptian carpenters, such as *Quercus ilex*, which grows in some areas of North Africa, and *Quercus coccifera* known as Kermes oak, which is to be found in the Mediterranean basin and is a very bushy tree.

Quercus cerris is a large tree attaining heights exceeding 40 metres with a trunk diameter of two metres. It seasons very badly and is liable to decay quickly when buried, but could have been profitably used for building work if large enough quantities were available. *Quercus ilex* is another hardwood, attaining heights of about 20 metres. This timber shows clearly the “silver grain” of the true oak.

Another oak, commonly known as European oak, is a hybrid, and is known to grow on the North African continent. In warm dry climates this timber seasons very badly.

Persea (*Mimusops laurifolia*)

Persea was cultivated in ancient Egypt, but again was unlikely to have been used for furniture production. Two pieces of this timber have been positively identified, a corner piece of a coffin preserved in the British Museum, EA 24800, and a headrest in Heidelberg University Museum, 290 (Gale *et al.* 2000: 342, fig. 15.8). The fruit would seem to have been this trees most important product.

Pine (*Pinus*)

Pinus halepensis grew in Western Asia and was used by ancient Egyptian carpenters in the manufacture of coffins and boats (Gale *et al.* 2000: 351–352, fig. 15.16).

Plum (*Prunus*)

The variety of plum (*Prunus domestica*) is found in Western Asia, particularly around the Caspian Sea and the Caucasus. Ancient fragments have been discovered in the spokes of a chariot wheel (Florence 2678). This tree grows quite quickly, up to 10 metres in height (Gale *et al.* 2000: 343).

Sidder (*Zizyphus spina-christi*)

Sidder (*Zizyphus spina-christi*), known also as Christ's thorn, grew in ancient Egypt. Both fruit and timber were used by Egyptians. A piece of coffin wood discovered on the Brunton expedition to Egypt in 1932 was identified by L. A. Boodle at the Royal Botanic Garden, Kew to be an example of this particular timber (Gale *et al.* 2000: 347, fig. 15.11).

Storax tree (*Liquidambar*)

Liquidambar orientalis as found in Western Asia, would have been used by ancient Egyptians for the sweet gum it produces. This would have been used as a perfume and also in the embalming process (Gale *et al.* 2000: 341–342, fig. 15.7).

Sycamore Fig (*Ficus sycomorus*)

This tree grows widely throughout Egypt and many pieces have been positively identified. These include coffins, roof trusses and statues (Gale *et al.* 2000: 340, fig. 15.6).

Tamarisk (*Tamarix*)

This tree may still be found widely spread throughout Egypt, the common species being *T. nilotica* (Gale *et al.* 2000: 345). It was first used during the Neolithic Period as a carving material but it is unlikely that many large pieces of furniture were produced from this timber, due to its small size and poor quality. Much of the timber is knotty with considerable defects. A chair with turned legs that was made of tamarisk and dated as 26th Dynasty is now preserved in the museum of the Oriental Institute, University of Chicago.

It would have been uneconomic and bad policy to fell such trees in ancient Egypt as they would have

been difficult to cut down and saw into reasonably sized boards, and, as today, such trees were found in the most inhospitable places, such as salt deserts. Here they are put to good use for many desert villages are surrounded by Tamarisk trees which protect them against drifting sand storms.

Yew (*Taxus*)

The yew (*Taxus baccata*) a variety found in Africa and Western Asia was commonly used in coffin construction and was an ideal material for carving. The head of the statuette of Queen Tiye from Gurob (Ägyptisches Museen, Berlin, ÄM 21834) has been identified as being modelled from this timber (Gale *et al.* 2000: 352).

Kew Gardens Collection

Timber identification undertaken on the collection of ancient timbers in the Royal Botanic Gardens, Kew (Kew catalogue numbers given).

Abies

- (30).1894/2 A piece of coffin wood of Graeco-Roman period, which was collected in Egypt by Dr Schweinfurth and presented to Kew in 1884, identified in 1978.

Acacia

- 160.1895 Piece of timber from Kahun, 12th Dynasty, c.1985 B.C. collected in Egypt by Petrie.

Cedrus

- 39.1924 Wood from House 44RI. from near Tell el Amarna, 1340 B.C. collected in Egypt by Prof. F.L.L. Griffith. Identified by L.A. Boodle 10.7.1924.

Cupressaceae

- 30.1894/3 A piece of coffin wood of Graeco-Roman period, which was collected in Egypt by Dr Schweinfurth and presented to Kew in 1884. Identified in 1978.

Ficus Sycomorus

- 30.1894/1/4 Two pieces of coffin wood of Graeco-Roman period, which were collected in Egypt by Dr Schweinfurth and presented to Kew in 1884. Identified in 1978.
- S.6932 Figure made of wood, 11th Dynasty.
- 107.1874 Coffin wood from Alexandria, date unknown.
- 174.1895 Inscribed models of cow and hay-cradle. Deir el-Bahri 17th Dynasty. Presented by EEF.
- 47.1927 Fragments of painted wood. Tell el Amarna, presented by the EES.

- 172.1883 A piece of coffin wood, which was collected in Egypt by Dr Schweinfurth, Date: unknown.

Quercus Cerris

- No number Wood from Tutankhamun's shrine. Identified by L. A. Boodle 2.7.1925. Work undertaken for Lucas, Egyptian Museum, Cairo.

Tamarix Nilotica

- 85.1885 Part of a hammock made from stems, from mummy, Qent 20th Dynasty. Collected in Egypt by Dr Schweinfurth.

Tamarix (species)

- 61.1923 Throwstick from a tomb at Thebes, c. 1700 B.C. Presented by Professor Newberry.

Lime

- No Number Fragment of wood from panel on which an early Roman portrait was painted. Discovered in Egypt. 1st cent. A.D. by Petrie in 1911. Identified by L. A. Boodle 6.2.1912.

Zizyphus spina-christi

- No Number A fragment of coffin wood. 9th Dynasty. Discovered by the Brunton expedition to Egypt.

2. Other Materials and Methods

Ivory

Ivory the dentine product of elephant and hippopotamus tusk was widely used in Egypt. Because by the Early Dynastic Period the elephant was already extinct within Egypt's borders it forced Egyptians to look towards Africa and western Asia to import the raw material. Hippopotamus tusk could be sourced from within Egypt and the culling of hippopotami was done as a way of reducing the population as the animal was seen as a "pest" (Krzyszowska and Morkot 2000: 320–331).

Fine ivory carving is first attested in female figurines of the Badarian Period, c. 5500–4000 B.C. which were found in graves. Ivory takes kindly to being carved for it has a particularly dense grain. By the Late Predynastic Period, (c. 3200 B.C.) carved ceremonial objects such as the famous knife-handles from Gebel El-Arak and elsewhere were being made of ivory. In the 1st Dynasty, year names and events were recorded on ivory tablets, probably used as labels for items of the funerary provision. Small ivory furniture legs fashioned in bovine form have been discovered in the

1st Dynasty royal tombs at Abydos. Notable examples come from the tomb of King Djer, now in the Fitzwilliam Museum, Cambridge (E. 46.1900) and the tomb of King Semerkhet, now in the Ashmolean Museum, Oxford (E.1283). These legs were most probably used to support small caskets or miniature stools, while larger wooden legs have been found which support beds and stools. In the 1st Dynasty tombs at Abydos were also discovered examples of ivory inlay, often incised with diamond patterns which are usually stained red.

Leather

Leather was used in strip form as a thong to tie together elements of furniture, before the introduction of animal glue. It was used as a protective covering to furniture and to provide the flexible seat of many folding stools. (Driel-Murray 2000: 299–319).

Inlay

We have already discussed ivory inlay but many other timbers were used, one of the most common was African Blackwood. Most of the inlay used is quite thick, between 2 mm and 4 mm and would have been cut with a small thin-bladed saw (Plate 18). On close examination of large pieces of African Blackwood inlay it is often easy to see the neat saw lines on the surface of prepared inlay. Much of the early inlay would have been fixed into position by resin, although by the New Kingdom animal glue was being extensively used. One of the earliest examples of large inlay work comes from a curtain box, which was a present from Sneferu to his wife, Queen Hetepheres I (c. 2613 B.C.), JE 53265, length 406 mm (Reisner and Smith 1955: 25–27, figs. 28a and 28b, pls. 12–13; Killen 1994: 8–11, fig. 8, pl. 3; Killen 2017B: 11–12, fig. 8, pl. 3). A box and armchair from the same context were inlaid with faience, carnelian and gold, a practice which continued, and is best exemplified, in the decoration of the back support of Tutankhamun's gold throne, JE 62028, (Plate 102 and Figure 32).

Veneer

Veneer was developed during the 1st Dynasty (3100–2890 B.C.). Emery discovered in the tomb of Hemaka at Saqqara a round box, cut from a solid block of wood, which was decorated with veneer, probably fixed by resin to the outer surface. The design was of a chequered pattern of different coloured woods. The thickness of the veneer is about the same as inlay and always remains so throughout the Pharaonic era. Each flitch was cut with a saw which must have resulted in a lot of wastage (Emery 1938: Cat. No. 432, pl. 23a). Veneers are fixed to the surface and in no way recessed into the surface as are inlays. Some large pieces of veneer are pinned or dowelled into position; this was done to prevent the veneer from twisting.

Whereas inlay would have been used to decorate the surface of reasonably good wood, veneers seems

to have been employed to disguise poor quality wood. This is noticeable from the furniture discovered in the tomb of Tutankhamun where much of the plain carcass construction was veneered with rarer woods.

Marquetry and Parquetry

Marquetry, the art of applying complicated patterns and floral decoration made of different coloured woods to the side panels of caskets and boxes, was widely practised from the New Kingdom. Ancient Egyptian carpenters of the New Kingdom were also to perfect the technique of parquetry, where regular geometric patterns were constructed by laying thousands of slivers of wood and ivory onto a panel creating a stunning visual effect. This is exemplified on one box (JE 61461) discovered in the tomb of Tutankhamun where an estimated thirty-three thousand individual pieces of wood were glued to the side panels and lid of the box in a herringbone pattern, height 216 mm, length 258 mm, width 228 mm. Another box, JE 61462, (Carter 1933, 66 and pl. XV A), height 279 mm, length 444 mm, width 298 mm, displays even more pieces of wood placed in a parquetry design.

Plywood

Although the laminated structure of wood veneers, commonly known as plywood, was not widely used in ancient Egypt, one specimen has been discovered. Fragments, which had six layers of veneer, each layer running at right angles to the other, were discovered at Saqqara in a passage of Djoser's Step Pyramid (c. 2648 B.C.). The fragments make the side of a coffin, and were found in an alabaster sarcophagus. The layers, none of which were the exact height or length of the coffin were dowelled together producing a large laminated sheet, the size of which could not have been cut from any logs available at that time (Gale *et al.* 2000: 356, fig. 15.19).

Glue

Glue was not widely used in ancient Egypt on a large scale until the 5th Dynasty (2494–2345 B.C.). On the furniture of Queen Hetepheres I, 4th Dynasty, c. 2613 B.C., the elements are still tied together with leather thongs. The inlay work to the arm panels of the second chair (which was never reconstructed, although a modern reproduction has been recently manufactured from new parts at Harvard University, Cambridge, Mass.), may have been attached to the wood with glue, but more probably with gesso.

Glue would have been made by boiling the bone and skins of animals in water which was allowed to evaporate to concentrate the solution and was then cast into ingots and allowed to set. The ingots would then be broken into smaller pieces or ground into powder and when needed placed in a pot with a small amount of water and reheated over a fire until the glue had returned to a viscous form. It would then have been applied to the joints of furniture and inlay by brush. A fine scene illustrating applying

and heating glue comes from the 18th Dynasty tomb at Rekhmira at Thebes, tomb TT 100 (Figure 2).

Gesso

Gesso was made by mixing a hydrated form of gypsum with glue, or another adhesive such as gum, to produce a fine plaster. This would have been applied to wood for several reasons.

1. It would have been applied to wood during the Early Dynastic Period as a base to attach inlay.

2. By the 18th Dynasty much of the furniture produced was being gessoed, undoubtedly to cover poor quality wood or even as a base for painting upon, as on the three legged table in the British Museum, London (EA 2469). See Plates 111–113.

3. Gesso was also applied during the New Kingdom as an adhesive to hold gold and silver foil to wood.

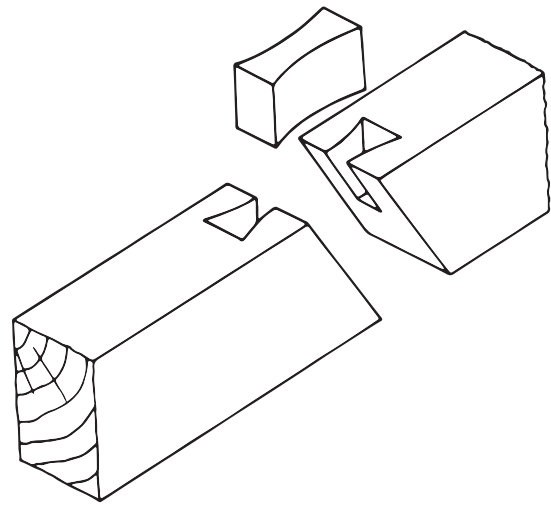


Figure 1. Scarf joint.

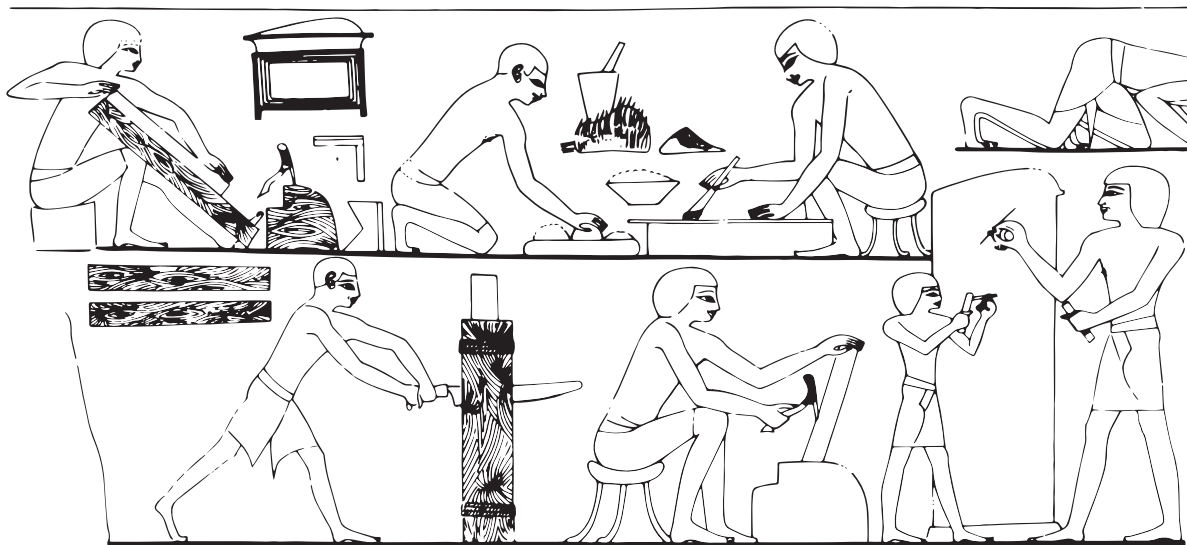
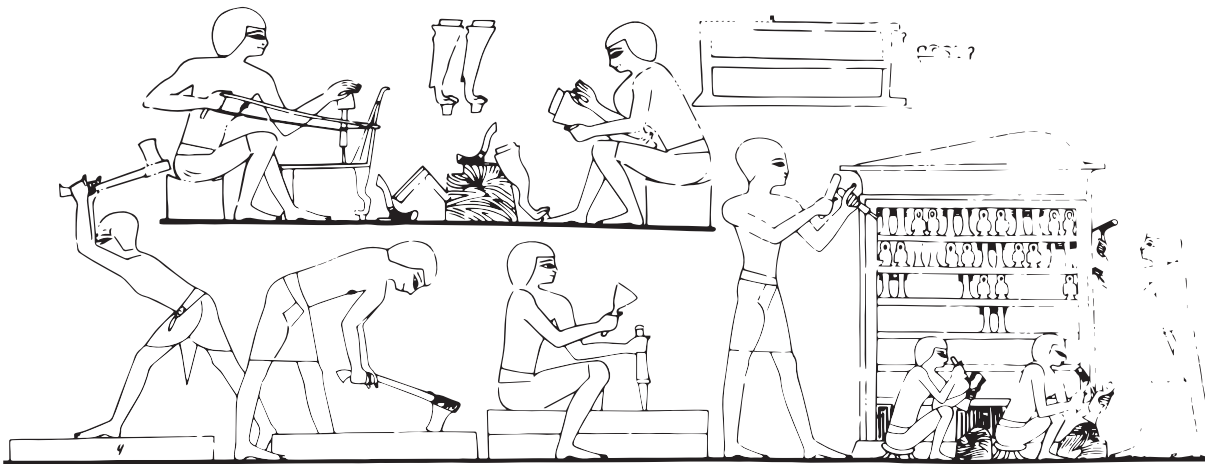


Figure 2. Carpentry workshop scene. (Tomb painting, Thebes, Tomb of Rekhmira, TT 100, 18th Dynasty).

Gold Sheet

The art of gilding, laying very thin sheets of gold foil over wood that has been previously covered with a layer of adhesive gesso was well known as a decorative technique. One of the royal beds from the tomb of Tutankhamun was decorated in such a way (JE 62015).

Another method employed to embellish furniture, especially royal furniture, was with either thick gold or silver sheet. This technique is seen on a bedframe (JE 62014), Plate 41, and the gold throne (JE 62028), Plate 102, from the tomb of Tutankhamun. Another fine piece is preserved in the British Museum, London (EA 21574), being reputed to be the fragments of a royal throne that belonged to Queen Hatshepsut (18th Dynasty, 1473–1458 B.C.), Plate 1. But recently it has been reassigned a later date having now been established that it was found in the 20th Dynasty tomb of Rameses IX, (1126–1108 B.C.). This new date is certainly feasible because these fragments form part of a royal bedframe as the style of the legs are very much of a Classic Kerma bedframe design being beautifully carved into a bovine form. However, its decoration is exclusively Egyptian, designed with the royal cobra (uraeus). The leg is covered with gold sheet and the hoof with silver sheet. In this object the technique of laying sheet metal is completely different to gilding; here the sheet metal has first been planished onto the hardwood leg and attached by small gold and silver nails, which pierce both precious metal sheet and wood core.

Another decorative technique is applied to this piece whereby the uraei on the uprights of the footboard have been inlaid with tiny silver rings punched into the wood.

Beeswax

The Egyptians apparently realised the opportunities of covering wooden products with beeswax, with evidence of its use found in the black varnish coating of a shabti (EA 8571) from the tomb of Rameses IX, (1126 – 1108 B.C.) (Serpico and White 2000: 420–422, fig. 17.17). It is possible that furniture was protected with beeswax, for it is the base from which most modern natural polishes are derived.

Varnish

Translucent varnish became widely used during the New Kingdom, particularly over painted surfaces of mummy cases and chests. A notable example is the painted chest from the tomb of Tutankhamun (JE 61467) (Killen 1994: 53–55, pls. 44–45; Killen 2017B: 69–70, pls. 44–45). On painted surfaces it still retains a high lustre although much has turned dark yellow due to its age and the modern preservatives applied to it after its discovery. Varnishes would have been applied by brush as they were made by melting resins, such as pistacia resin. Black varnish which served as a black paint was also used on wood, to protect it, during the New Kingdom. It would have been prepared by strongly heating pistacia pitch and applying

the resulting varnish whilst hot to the wood surface (Serpico 2000: 459–460).

Dowels

Dowels are used as early as the 1st Dynasty, an example of dowelled wood was discovered at Abydos and possibly forms part of a hinged lid or chair back fragment (Ashmolean Museum, Oxford, E. 138, tomb of King Semerkhet). Dowels were widely used on all types of jointing even when glue was employed. This was due to carpenters being unable to cramp up work as the glue cured, so holding joints with dowels was still necessary.

Scarf joint with Butterfly Cramp

Egyptian timbers were often short, due to being cut by a pullsaw, which meant that each strip could be no longer than the post to which the board was tied, which was usually the height of the sawyer unless he stood on a stone block which elevated him slightly. This is shown in some tomb scenes illustrating carpenters at work. This problem meant that the battens which made the side rails of large boxes had to be jointed together by their end grain. This type of contact is not now used, as we can obtain long lengths of rotary cut timber. The Egyptians must have experienced problems in jointing lengths of small sectioned timber, as the end grain of timber do not glue satisfactorily together.

This is the reason why boxes are usually of a small character during the earliest dynasties. It is not until the Middle Kingdom when the technique of scarf jointing with a butterfly cramp became widely used, that the dimensions of timber framed boxes and chests changed greatly. The scarf joint, (Figure 1), is where two battens of wood join together by their end grain; the faces in contact are cut through at an angle and into the top surface of the timber elements is cut a double dovetail, which is the hole that engages a butterfly cramp. When the butterfly cramp is forced into the double dovetail the two battens are securely locked together.

Some longer timbers were prepared by cleaving boards from the tree trunk. Wooden wedges would be driven into the end and side grain which allowed boards to be split from the trunk. Once cleaved the boards were trued by a carpenter who used a large adze.

Nails and Tacks

We have already discussed the use of tacks to fasten gold sheet and veneer to wood, however, during the 18th Dynasty gold studs were also employed to secure joints together.

Hinges

Metal hinges were developed during the New Kingdom, and two very fine examples are to be found in the furniture of Tutankhamun. Simple butt hinges made of gold are used on a small solid ivory casket (JE 61449). The large copper

hinges used on the folding bed, (JE 62018) and described fully in Chapter 3, are a great technical achievement.

Locks

Until the New Kingdom locks were not used on furniture, although during the Middle Kingdom coffins were sealed by a system of weights which dropped when the coffin was shut and made it impossible to open again without using force. The main method of securing chests throughout ancient Egypt was to attach a seal to cord which was wound around knobs on both the lid and front panel of the chest. If the lid was opened the cord and seal would have to be broken.

Another method of locking a box was to include a swivelling catch, located in the front gable of a box; the

lid was slid into position along a pair of runners housed along the top edges of the long sides of the box. Once the lid was in place the swivelling latch would freely drop locking the lid to the box (Killen 1994: 38–39, fig. 53, pls. 31–32; Killen 2017B: 49–51, fig. 53, pls. 31–32). An alternative method used to secure the contents of boxes was to employ a simple rotary lock; this is best seen on a chest from the tomb of Tutankhamun, Carter No. 585: JE 61456 (Aldred 1954: 695, fig. 496B; Killen 1994: 68, fig. 72; Killen 2017B: 83, fig. 72). An external knob is connected to a shaft inside the box. The knob which is on the lid is able to turn and so turns the shaft through which at right angles is a pin. This pin engages in a slot on the inside panel of the box, a small “*ankh*” symbol on the knob indicates when the lid is locked by its position.



Plate 1. Bedframe leg. 20th Dynasty. Tomb of Rameses IX. British Museum, London. EA 21574. © *British Museum*.

Chapter 2

Tools

The working of timber in ancient Egypt occurred from the earliest times, during the Badarian period c. 5500–4000 B.C. we find simple timber poles (e.g. Petrie Museum, University College, London. UC 9294) employed as stretchers on which was laid a matting of twigs for the body of the deceased to be placed upon. Also from this period we see the use of sculptured fertility models which are carved mainly in ivory. Although not furniture they begin to show us that these people had knowledge and understanding of cutting tools. The origins of many of the tools used in the dynastic period were developed in predynastic times.

The principles of in cutting timber have not changed; therefore the original solutions are as perfectly valid today as they were thousands of years ago. Until the 20th century, with the introduction of machine tools, carpenters continued in a timeless profession. When studying reliefs and paintings that survive from ancient Egypt it is quickly established that all the hand techniques used today were being employed by ancient carpenters. In fact this information on the use of tools comes not only from tomb scenes but also from models of carpenters at work. From the 11th Dynasty tomb of Meketra (TT 280), we have a model in which we see carpenters seated around the walls of their workshop, engaged in sawing, trimming timber with adzes, chopping mortises, finishing timber and shaping tools by forging (Winlock 1955: 89–90, pls. 21, 28, 29, 68, 69). Again from the 18th Dynasty tomb of Rekhmira (TT 100) we may observe the whole range of carpentry skills which not only includes the techniques previously mentioned but also the splitting of timber with axes, drilling and measuring the length of timber with a cubit rod. The cubit rod also acted as the carpenter's straight edge and for checking the angular accuracy of parts he uses both try and mitre squares. Furniture parts were fixed together with glue applied by brush before the

finished artefact was sanded and burnished (Davies 1943: pls. LII–LV). A notable red burnisher of stone is preserved in the British Museum, EA 21907: 130 mm × 35 mm.

The role of the carpenter in Egypt changed greatly as his services became more widely used, during the 1st Dynasty for mainly funerary type furniture but as shown later on more normal household items of furniture. In a scene from the tomb of Ty which is dated as 5th Dynasty (Steindorff 1913: pl. CXXXIII), and also in the later model from the 11th Dynasty tomb of Meketra, carpenters are seated upon the workshop floor. This view is radically changed by the New Kingdom where we see carpenters seated on three-legged or lattice-braced stools (Davies 1927: pl. XXXVI; Davies 1933, pl. XXI; Davies 1943, pls. LII–LV). Many of these later carpenters work at primitive benches which appear to be large blocks of timber, for the tomb scenes show them to be covered with lines which imitate wood grain. Some carpenters are seen to embed their adze into the top surface of the bench. The front edge of many of these benches has a right angled sectioned removed, obviously positioned to hold planks which are being sawn to length. This is very much like the modern bench hook which is held in the bench vice. (The carpenter's vice was not a piece of equipment used by ancient craftsmen). In Figure 2 may be seen the processes and tools illustrated from the tomb of Rekhmira (reign of Thutmose III, 1479–1425 B.C.).

1. SCRIBING INSTRUMENT (PLATE 2)

New Kingdom.

British Museum, London. EA 15742.

Overall length 106 mm, blade length 7 mm.

The marking knife (scribing instrument), was widely used by Egyptian carpenters, examples have been discovered

as early as the 12th Dynasty at Kahun (UC 7302). Knives were used to score lines on wood so allowing carpenters to work and cut the wood to the marks. Such lines can be seen on one of the holes in the bow of the bowdrill now in the British Museum, EA 6040, Plate 22. The marking knife consists of a soft wooden handle with a small bronze forged blade pressed in at one end.

2. TRY SQUARE (PLATE 3)

Ptolemaic Period.

Petrie Museum, University College, London. UC 6925.

Width 258 mm, length 299 mm.

The origin of the try square is uncertain but it was widely used during the New Kingdom. This particular try square, Plate 3, is historically late, but undoubtedly similar to those examples illustrated from the New Kingdom, Figure 2. (Davies 1943: pls. LII and LV). The square is made from reddish wood of rectangular section 33 mm × 18 mm. It is made from two elements, the stock and blade, being connected by a bridle joint and secured by two metal pins. The joint is wedged, this obviously being driven into the joint to open the two elements to enclose a perfect right angle.

Below the try square that is illustrated in Figure 2 can be seen a mitre square that has been placed on the workshop floor behind the carpenters bench block. A similar mitre square has been identified by the author and is also preserved in the Petrie Museum, University College, London. UC 27879ii (Killen 2003: 40, fig. 3).

The Adze

The adze was employed for the same purpose as our modern jack and smoothing planes. The copper bladed adze appears before the dynastic age, usually as small thin bladed tools, often with straight edges (Petrie 1917: 16 and pl. XV, Z60, 61). It is not until the dynastic age we first discover the flared blade which was cast in copper (Petrie 1917: 16 and pl. XV, Z8, 66, 67). The copper blade of an adze was attached to a carved wooden haft by means of a leather binding. The earliest blades are cast then forged, since forging increased the hardness of the blade by the molecular work hardening of the copper. Many of the earliest blades were made with flat ends but over time the design and size changed as the adze was employed to cut different types and sizes of timber.

3. ADZE BLADE (PLATE 4, TOP).

Predynastic.

Petrie Museum, University College, London. UC 19836. Length 77 mm, width at cutting edge 15 mm, thickness 2 mm.

Petrie 1917: pl. XVI, [260].

Very small adzes were used during predynastic times to trim and smooth the materials used for small carvings. They are commonly discovered with straight edges, on examination of this blade the cutting edge is seen to have been ground to form a sharp rake, suitable for cutting and slicing. The thickness of this blade tapers towards the edges.

4. ADZE BLADE (PLATE 4, MIDDLE)

1st Dynasty.

Petrie Museum, University College, London. UC 19837.

Length 205 mm, width at cutting edge 33 mm, thickness at centre of blade 4 mm.

Petrie 1917: pl. XVI, [270].

Larger adze blades are found at the beginning of the dynastic period, which coincides with the larger funerary bedframes and furniture which were constructed during this period. These blades are cast and flared by forging which increases the width of the cutting edge. The top of the blade is often rounded but there are examples which still retain the flat square top: a notable example is now preserved in the British Museum, London EA 59223. This example (Plate 4, middle) from the Petrie Museum, University College, London, has a very sharp rake ground to 30°.

5. ADZE BLADE (PLATE 4, BOTTOM)

4th or 5th Dynasty.

Petrie Museum, University College, London. UC 19838.

Length of blade 192 mm, width at cutting edge 38 mm, thickness 3 mm.

Petrie 1917: pl. XVII, [277].

By the 4th and 5th Dynasties the shape of the adze blade had changed. It still retained the flared body and straight cutting edge with a rounded top but below this it became more necked.

6. ADZE BLADE (PLATE 5)

Middle Kingdom.

British Museum, London. EA 22841.

Length of blade 167 mm, width of cutting edge 51 mm, thickness of blade at centre 5 mm.

The necking of the adze blade continued to the point where it was reduced to one fifth of the cutting edge. This particular blade is cast in bronze and forged to shape; the forging marks can be clearly seen. This blade is flared from the neck and is typical of blades of the Middle and New Kingdoms. The cutting edge of the blade is slightly curved and the rake has been forged onto the blade before being finally ground.

7. ADZE (PLATE 6)

New Kingdom.

British Museum, London. EA 6061.

Overall length of haft 245 mm, length of bronze blade 140 mm, width of cutting edge 30 mm.

Baker 1966: 297, fig. 458.

This small adze is designed for small delicate work; the haft is made of a light coloured wood and is of fine condition being well carved and sandstoned. The base of the handle has been sawn through. The blade is attached to the haft by a length of mummy bandage, no doubt a temporary method of securing the blade to the haft. The blade is cast and forged in bronze, 2.5 mm in thickness, and is flared with a curved cutting edge. The main body of this blade is of the later necked design.

8 ADZE (PLATE 7)

New Kingdom.

British Museum, London. EA 26279.

Overall length 330 mm, length of blade 158 mm, width of cutting edge 46 mm.

The haft of this adze, which is larger than the previous example, is designed for more general use. It is cut and carved from a conveniently shaped wooden element. Along the side of the haft is incised a cartouche bearing the name of Queen Hatshepsut. The blade is attached to the haft by a strip of light red leather, which is woven about the blade and haft and continuing below the characteristic step on the haft. The ends of the leather strap are wedged beneath the circular layers which still hold the blade tightly. The bronze blade is very thin and is of the necked design with a straight cutting edge.

9. ADZE (PLATE 8)

New Kingdom.

British Museum, London. EA 22834.

Overall length 540 mm, length of blade 205 mm, width of blade at cutting edge 65 mm, thickness of blade 8 mm.

Baker 1966: 297, fig. 458.

This large adze would have been used for the roughing, shaping and removal of bark and sapwood from large timbers. The wooden haft is neatly carved and the blade is attached to it by thick strips of white leather, which has been bound around the blade.

Axes

The axe as used by carpenters in Egypt developed during the 1st Dynasty as a tool to fell trees and to cut timber

to size. The latter operation was replaced by the pullsaw which evolved later than the Early Dynastic Period. There are three main type of axe.

1. Plain round bladed axes.

2. Axes with two lugs which were attached to the axe haft.

3. Axes with sockets which allowed the haft to pass through the blade. These axes developed later, and were cast in bronze which has a better affinity to flow around the sand cores needed to produce the socket hole in the mould.

The first type of axe seems to be the most widely used as a carpenter's tool during the dynastic period. The introduction of the axe was due to the greater capability of casting copper during the 1st Dynasty and the need to cut down larger trees to make larger pieces of furniture. Copper had previously been difficult to refine and smelt and therefore smaller quantities of the metal were cast and fashioned into the cutting blades of adzes and chisels.

10. AXE BLADE (PLATE 9)

1st Dynasty, Abydos tomb 387.

Petrie Museum, University College, London. UC 16174.

Depth 153 mm, width 122 mm, thickness of blade 15 mm.

Petrie 1925: pl. III[6], pl. XXI.

The carpenter's axe was a much heavier implement than the lighter battle-axe, which had a thinner blade. Carpenters' axes were cast in hollow sand moulds which left them with flat faces. The edges of the axe were then forged on both sides to form the characteristic double cutting edge of the axe, unlike the adze blade which is sharpened on one side and similar to a modern plane blade. The blade of the axe is tied to the haft by means of leather thongs; later blades had lugs which fitted to the haft and made the tying of both elements together easier. With the axe the cutting edge is parallel to the haft and the haft is thicker and shorter than the adze. This allows for heavier blows and violent levering of the axe from the timber. These characteristics are unlike those of the adze, which as we have seen was mainly used for delicate work, although heavy adzes were employed. With the introduction of pullsaws the popularity of the axe as a woodworker's tool must have reduced, although it would still have been used by lumbermen. This is very much like the situation today where we have come to disregard the axe as a carpenter's tool. However, from the 18th Dynasty scenes of carpenters at work in the tomb of Rekhmira (Figure 2) two carpenters are shown splitting timber logs with axes (Davies 1943: pl. LII).

Chisels

11. SMALL ENGRAVING TOOL/CHISEL (PLATE 10 RIGHT)

Petrie Museum University College, London. UC 19839.
Length 104 mm, width 3.5 mm, thickness 2.5 mm.
Compare: Petrie 1917: pl. XXII, [44].

We first find small copper chisels in the finds of predynastic burials in Egypt. Such small chisels are very common and were used extensively throughout the dynastic age as well. These chisels are characteristically bars of copper which are flared at both ends by forging to give two cutting edges. They would have been used like an engraver by gripping the centre of the blade as if writing with a pencil. Obviously they could only be used with the pressure that could be applied by the hand.

12. SMALL DOMED HEADED CHISEL (PLATE 10, MIDDLE TOP)

Predynastic, Harageh.
Petrie Museum, University College, London. UC 19840.
Length 45 mm.
Petrie 1917: pl. XXII, [54].

This small chisel has been used like a cold chisel, that is, the end of the chisel has been burred over by repeated hitting of the head by a hard implement. This is the first type of chisel to have been used to cut holes and grooves in wood and ivory.

13. CHISEL HANDLE (PLATE 10, MIDDLE BOTTOM)

1st Dynasty.
Petrie Museum, University College, London. UC 19841.
Length 34 mm, diameter 17 mm.
Petrie 1917: pl. XXII, [c 65].

This is a small handle from an early chisel, the blade of which is now lost. During the 1st Dynasty there was a great change in emphasis in woodwork. Larger articles were being manufactured, which required chisels with handles through which the pressure could be applied by the hand directly to the cutting edge. Hand carving of wood was now possible unlike with previous engraving techniques.

14. CHISEL (PLATE 10 LEFT)

11th Dynasty, Asyut.
Petrie Museum, University College, London. UC 19842.
Overall length 150 mm, handle length 82 mm, thickness of blade 1 mm, width of blade at tang 14 mm.
Petrie 1917: pl. XII, [70].

During the Middle Kingdom this type of chisel was popularly used. Most probably this particular chisel was used to cut and incise wood, a technique popularly used during the 11th Dynasty. There are no signs of damage to the top of the handle and this suggests that such thin-bladed tools were not used for mortising. However, there are examples of chisels which are of similar design but with thicker blades; these would have certainly been used to cut mortises in wooden elements (Petrie 1917: pl. XXII, c.73).

15. MORTISE CHISEL (PLATE 11)

New Kingdom.
British Museum, London. EA 6053.
Overall length 330 mm, length of wooden handle 208 mm.
Baker 1966: 297, fig. 458.

This particular chisel would have been used for cutting mortises. The size and general appearance of the chisel indicates its special purpose. The handle, like its modern counterpart is very long and the blade only goes partly into it. The length of the handle is necessary due to the repeated pounding of a mallet on the head of the chisel handle. The further away the tang of the blade is from the point of contact with the mallet, the less likelihood of splitting the handle. This must have occurred regularly with chisels used for this purpose during the Old Kingdom. On the top of this chisel handle may be clearly seen the damage caused by the repeated pounding of the mallet. The blade of this chisel is made from square sectioned bronze; 6 mm square ($\frac{1}{4}$ inch square is the normal size modern mortise chisels are manufactured). It proved necessary for the mortise chisel to have a thick blade from a very early age, for the technique of mortising involves the levering of chips of wood out of deep holes. The thinner firmer blade chisel used in general bench work would have bent or broken when used for mortising. The cutting edge of this chisel is forged to a slight taper and leaves the blade 7 mm wide.

16. FIRMER CHISEL (PLATE 12)

New Kingdom.
British Museum, London. EA 6045.
Overall length 254 mm, length of wooden handle 150 mm, width of blade 10 mm, thickness of blade 5 mm; cutting edge 15 mm.
Baker 1966: 297, fig. 458.

This particular type of chisel originates as far back as the 1st Dynasty. From tomb S3471 at Saqqara, Professor W.B. Emery discovered a large collection of chisels which were used as general bench chisels as well as a

number of mortising chisels. The handle of the firmer, Plate 12, (which is from the New Kingdom) is shorter than a mortising chisel, and there is a split along one side of it which may have been caused by incorrect use or, more probably, by time and climatic change. There is no damage to the top of the handle which indicates that it was not used with a mallet. More likely the pressure used on these chisels would have been applied by hand. The bronze blade is thinner than the mortise chisel but wider and this is characteristic of firmer chisels.

17. CHISELS (PLATE 13)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 61295, JE 61297, JE 61299, JE 61301, JE 61304, JE 61307, Carter Nos 316 A, C, E, G, J, M.

Carter 1933: 89–90, pl. XXVII.

This set of fine iron chisels was discovered in the tomb of Tutankhamun. It is unlikely that these small chisels were used by carpenters but possibly placed in the tomb as a presentation set. The production of iron from its ore or smelted from meteor particles, which probably gave the metal value, was not a widespread process at this time. These chisels were probably placed in the tomb to herald the arrival of a new age in metallurgy.

18. SHARPENING HONE (PLATE 14)

New Kingdom.

British Museum. EA 36728

Length 193 mm, width 42 mm.

Baker 1966: 297, fig. 458.

As with modern tools, ancient tools were sharpened on a hone. This fine example is now preserved in the British Museum. It is a slab of green grey mudstone which has a 6 mm diameter hole drilled out at the thickest end. This hole was possibly used to suspend the hone much like a modern leather. At the hole end, the hone has a thickness of 16 mm, whereas in the centre it thins to 8 mm. This has been caused by the honing action of chisels and adze blades. A great many score marks may be seen throughout the length of the stone and a few grazes at right angles to these are also visible. These smaller grazes would have been caused by rubbing away the burred metal on the cutting edge after the blade had been sharpened.

19. OIL FLASK (PLATE 15)

New Kingdom.

British Museum, London. EA 6037

Overall length 220 mm.

Baker 1966: 297, fig. 458.

Lubrication during the process of sharpening tools on a stone is best achieved by placing a little oil on the stone. The oil flask was by far the most convenient way of storing oil for this purpose. This example was made from a hollow horn which was plugged at the largest end with a wooden stopper 55 mm in diameter which fits tightly into the horn. The stopper is made from a wooden bung cut through a tree branch. At the other end is placed a spout which again is made from wood, it is shaped in the form of a spoon but is attached to a ferrule, of 17 mm diameter, which passes over the horn. The ferrule is attached to the horn by a small wooden dowel. It would seem that the ferrule was bound with string binding, which is now badly decayed, possibly this was used to hang the flask on a peg. When this particular object was discovered it still contained a small quantity of oil.

20. WOODEN MALLET (PLATE 16)

New Kingdom. Temple of Mentuhotep, Deir el-Bahri.
British Museum, London. EA 41679

Length of handle 94 mm, length of head 136 mm,
diameter of head 110–112 mm.

The mallet is a primitive tool and many have been discovered which are not in good condition. Some mallets have been found of stone (a notable limestone example is now in Petrie Museum, University College, London. UC 16718), but it is not known whether these were used with cold chisels by masons or with wood chisels by carpenters. This heavy mallet (Plate 16) is in very fine condition and obviously never used. It is cut from a single block of wood; the head has been carefully shaped with an adze into a domed form. The sharpness of this tool that formed this mallet can be gauged by the cleanness of the cut marks. The handle is reduced to an elliptical shape and the slicing marks are narrower which indicates that this part was cut with a firmer chisel. The head of this mallet has a heart shake through it which indicates that this piece of wood was cut from the centre of a tree trunk for there is no evidence of sap wood.

Saws

The metal saw made of copper is first discovered during the 1st Dynasty, although the technique of sawing was known in the Badarian period 5500–4000 B.C.

21. SAW KNIFE (PLATE 17)

Badari, c. 4000 B.C.

British Museum, London. EA 62274.

Length 199 mm, width 32 mm.

We first find flint knives from the Badarian period; some are found to have their blades very roughly and irregularly serrated as this example. The cut made with these saw knives were very crude, although by c. 3000 B.C. saw knives had developed to have fine serrated cutting edges (e.g. British Museum, London, EA 29288). These saws would have cut thin sections of wood well, but on larger sections or boards they would have been ineffective.

22. SAW (PLATE 18)

1st Dynasty.

British Museum, London. EA 66064.

Length 355 mm, width of blade 45 mm, thickness of blade 1 mm.

The thin copper saw originates during the 1st Dynasty and again its basic design was taken from the copper knife. Professor W.B. Emery discovered in tomb S3471 at Saqqara a fine collection of saws; (Emery 1949: 30–31; pl. 18 is characteristic of those found). Along one edge of the blade and not always along its entire length are found the serrations we basically classify as saw teeth. These teeth are not all the same shape and the distances between them often differ, sometimes greatly. This saw, like all saws until the Late Period, has a totally different type of set to that of modern saws. The irregularities in the saw's teeth are caused by the teeth being punched out all from one side and not alternately as on a modern saw set. The saw is forged from a narrow bar of copper, the tang of which is left the original size and like 1st Dynasty knives fitted into a wooden handle. The blade of the saw is greatly reduced in thickness; the end of the saw is left with a round blunt form. Due to the forging a slight rib is left along the centre of the saw which merges into the tang.

At Tarkhan were found many 1st Dynasty wooden coffins made from cut boards (Petrie 1913: 27, pls. XXVII, XXVIII). It is seen that carpenters had problems when sawing large planks with such saws. The saw lines on these coffins cut across the surface at many angles. It is not until the introduction of the pullsaw that cutting planks from logs became an easier process. However, wood veneers would still have been cut with such small saws.

23. SAW (PLATE 19)

New Kingdom.

British Museum, London, EA 6046.

Length of wooden handle 118 mm, overall length of saw 380 mm, width of blade at widest part 35 mm, thickness of blade 1 mm.

Baker 1966: 297, fig. 458.

This small hand tenon saw which dates from the New Kingdom is beaten from a sheet of cast bronze, is not perfectly uniform in thickness or true in line. The tip of the blade is slightly tapered and finishes in a rounded blunt form. The cutting edge is curved making the cutting action of this particular saw similar to a rocking stroke. Along the cutting edge, which is 258 mm in length, are punched 110 teeth of irregular size and pitch (distance apart). The set on this saw is again all punched in one direction; the teeth, which are small equilateral triangles, point vertically downwards. The sawing stroke would have been on the forward motion; this is determined by the shape of the wooden handle which is curved, allowing it to be in contact with the palm of the hand. Through this would have been passed the forward thrust, very much like the handle of a modern dovetail or tenon saw. The shape of this handle gives a more comfortable grip, and is better to work with than the straight plain cylindrical saw handles of the 1st Dynasty. The handles of small hand saws were attached to the blade by means of a tang which was a stout projection of metal from the blade. The tang would have been heated and then pushed into the handle; this would allow the tang to burn its shape into the handle. These particular saws with shaped handles are illustrated as early as the 5th Dynasty in the tomb of Ty at Saqqara (Steindorff 1913: pl. CXXXIII).

24. PULLSAW (PLATE 20)

New Kingdom.

British Museum, London. EA 30245.

Total length of saw 567 mm.

Baker 1966: 297, fig. 458.

It would not have been very long after the 1st Dynasty, when problems were experienced in sawing logs into planks, that the pullsaw emerged. Most of the large workshop scenes illustrated in tombs show a carpenter using a pullsaw. Notable examples from the private tombs at Thebes may be found in the tombs of: Nebamun and Ipuky (TT 181), (Davies 1925: pl. XI); Apy (TT 217), (Davies 1927: pl. XXXVI); Menkheperasonb (TT 86), (Davies 1933: pl. XII); Nefer-hotep (TT 49), (Davies 1933A: pl. XXVII); Rekhmira (TT 100), (Davies 1943: pl. LII).

The importance the Egyptian carpenter gave to the pullsaw is beautifully illustrated in the model of carpenters at work discovered in the 11th Dynasty tomb of Meketra. Here the pullsaw is being used at the centre of the workshop, where there is placed a thick wooden post which would have been sunk deeply into the ground. The carpenter has secured to the post with rope the piece of timber he wishes to rip down. He grasps with both hands the handle of the saw and pulls it towards himself for the teeth of such saws always point towards the handle.

Obviously this method would have been used like our modern rip or cross-cut saws, but it must have still been difficult to cut accurately with pullsaws. Pulling the saw through timber, even well-seasoned wood, must have created problems and I can envisage the sawyer using his feet as a lever against the post to enable himself to pull the saw through the timber cleanly. Some scenes which illustrate pullsaws show the kerf of the sawn timber being opened with a weight suspended from a rod which is tied to the top of the timber. The pullsaw in the British Museum shown in Plate 20 is a fine example; it is made from a large forged sheet of bronze, with its teeth pointing towards the handle. It is not until the Roman period and the introduction of large quantities of iron that the saw with the modern tooth-set developed.

The Bowdrill

The development of the bowdrill from the bow and arrow happened most certainly shortly before the dynastic age. By the 5th Dynasty we have tomb scenes, from the tomb of Ty, which show accurately the operation of an early bowdrill (Steindorff 1913: pl. CXXXIII). It may be seen that the operator is kneeling in front of the casket he is working on. In his right hand he holds the bow, the cord of which is wrapped about the stock, which is held in a cup by the craftsman's left hand. Pressure is applied by his left hand through the cup and stock to the drill which is embedded in the bottom of the stock. The bow-cord which is wrapped once around the stock is drawn backwards and forwards by the operator's right hand. This motion turns the drill which bores a hole depending upon the sharpness of the drill.

25. BOW AND DRILL STOCK, WITH STONE CUP (PLATE 21)

12th Dynasty, Kahun.

Petrie Museum, University College, London. Bow UC 7085, stock UC 7084, stone cup UC 19835.

Bow length 330 mm, stock height 215 mm, stone cup dia. 62 mm.

Petrie 1891: pl. VII, 23, and Petrie 1917: pl. XLVIII, [8 (stock)].

Petrie 1891: pl. VII, 22, and Petrie 1917: pl. XLVIII, [8 (bow)].

This bowdrill is dated as Middle Kingdom but is very similar to that illustrated from the 5th Dynasty. The bow is cut from a conveniently shaped branch; at one end is a hole through which the bowstring is tied while at the other end the string is simply looped over a lug on the end of the bow. The stock is not finished and has never been used. At the top of the stock is a carved knob

which would have engaged into a stone cup, sometimes a dom palm nut cup was used. There is no hole at the base of the stock in which would have been placed the metal drill. Also in the Petrie Museum is the stock of a wooden fire-lighter which would have been used in a similar way to the drill stock but used to create friction to obtain fire (UC 16772); this stock is dated as New Kingdom, being found at Gurob, in tomb 553. The important feature of this stock is that in one side there is a hole, which enters into the peg hole. This enabled a burnt peg to be removed by pushing it out of the collet and a new peg could be inserted.

26. BOW (PLATE 22)

New Kingdom.

British Museum, London, EA 6040.

Overall length 474 mm.

Baker 1966: 297, fig. 458.

This bow, which is much later, is again made from a conveniently shaped branch. At the bow's elbow it may be seen how the wood's grain freely flows around the bend. The ends of the bow are rounded, and at each end have rectangular holes cut vertically through the bow. On one of these holes there seems to be evidence of preliminary marking out of the hole with a marking knife or scribing instrument. The bow string is made from plaited plant fibre, being bound at each end of the bow through the rectangular holes, and being tied in the centre of the hole. The bow string is a great deal longer than the bow which allows it to be wound around the stock of the drill.

27. DRILL (PLATE 22)

New Kingdom.

British Museum, London. EA 6042.

Overall length 240 mm, length of wooden sheath 137 mm.

Reference as for preceding item.

The drill is made from two elements, the stock and embedded metal bit. The stock is cut from a light coloured wood which has split badly from the top. The top of the stock is sharply tapered and domed over; over this would have been placed the half cup of a dom palm nut. Around the stock may be seen the friction marks created by the bowstring as it was operated to and fro at high rotational speeds. The drill is of forged bronze, and is wedged into a hole in the bottom of the stock. Many drills were forged with square shanks; this eliminates the drill turning in its stock while being operated. The cutting edges of these drills were flattened to a sharp edge, the shape of which is characteristic of the blade of a modern screwdriver.

28. AWL (PLATE 23)

New Kingdom.

British Museum, London. EA 6055.

Overall length 118 mm, length of wooden handle 38 mm.

Reference as preceding item.

The awl is probably slightly earlier than the bowdrill.
Professor W.B. Emery excavated from tomb S3471 at

Saqqara many 1st Dynasty awls (Emery 1949: 47, fig. 24). They were very fine, and were similar to this example now preserved in the British Museum. This awl would have been employed either to bore holes through thin sheets of wood or used to mark the positions for drilling. The handle is made of finely polished wood; the blade is forged from square section bronze. The point of this awl has been ground to shape, as there are very small grinding marks around the point.



Plate 2. Scribing instrument. New Kingdom. British Museum, London. EA 15742. *Photographic credit: Lorraine March-Killen.*

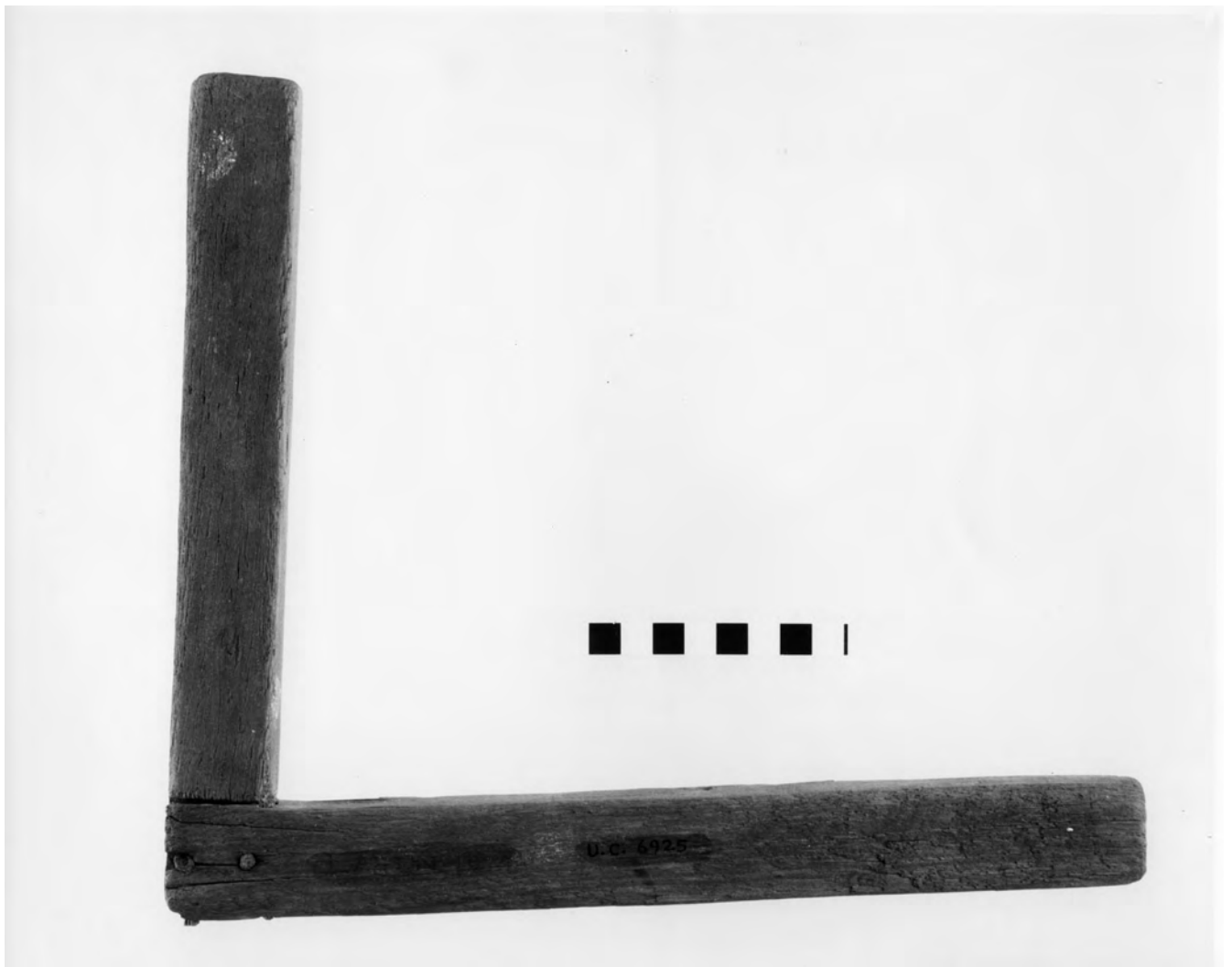


Plate 3. Try Square. Ptolemaic. Petrie Museum of Egyptian Archaeology. UC 6925. © *Petrie Museum of Egyptian Archaeology, UCL.*



Plate 4. Adze blades. Petrie Museum of Egyptian Archaeology. Top. UC 19836; Middle. UC 19837; Bottom. UC 19838.
© Petrie Museum of Egyptian Archaeology, UCL.



Plate 5. Adze blade. British Museum, London. EA 22841. *Photographic credit: Lorraine March-Killen.*



Plate 6. Adze. British Museum, London. EA 6061. *Photographic credit: Lorraine March-Killen.*



Plate 7. Adze. British Museum, London. EA 26279. *Photographic credit: Lorraine March-Killen.*



Plate 8. Adze. British Museum, London. EA 22834. *Photographic credit: Lorraine March-Killen.*



Plate 9. Axe blade.
1st Dynasty. Petrie
Museum of Egyptian
Archaeology. UC
16174. © *Petrie
Museum of Egyptian
Archaeology, UCL.*



Plate 10. Chisels. Petrie Museum of Egyptian Archaeology. Right. UC 19839; Middle top. UC 19840; Middle bottom. UC 19841; Left. UC 19842. © *Petrie Museum of Egyptian Archaeology, UCL.*



Plate 11. Mortise chisel. British Museum, London. EA 6053. *Photographic credit: Lorraine March-Killen.*



Plate 12. Firmer chisel. British Museum, London. EA 6045. *Photographic credit: Lorraine March-Killen.*

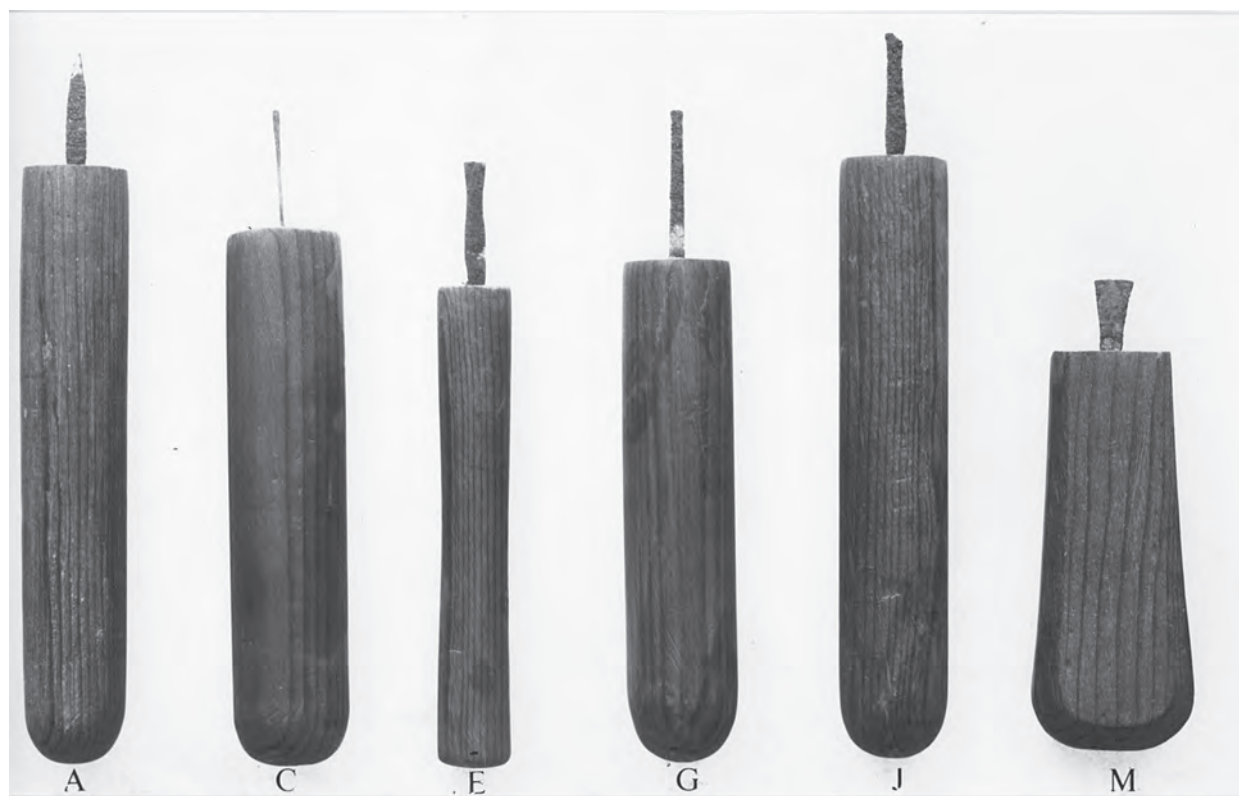


Plate 13. Iron model woodworking chisels. Tomb of Tutankhamun. JE 61295, JE 61297, JE 61299, JE 61301, JE 61304, JE 61307. Carter Nos 316 A,C,E,G,J,M. Burton Photograph p1052. © Griffith Institute, University of Oxford.

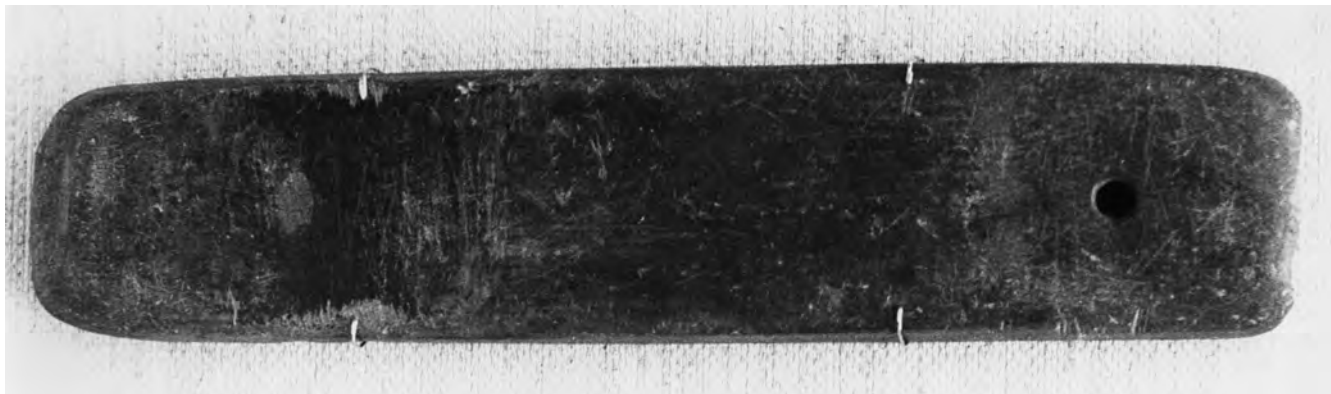


Plate 14. Sharpening hone. British Museum, London. EA 36728. *Photographic credit: Lorraine March-Killen.*



Plate 15. Oil flask. British Museum, London. EA 6037. *Photographic credit: Lorraine March-Killen.*



Plate 16. Wooden mallet. British Museum, London. EA 41679. *Photographic credit: Lorraine March-Killen.*

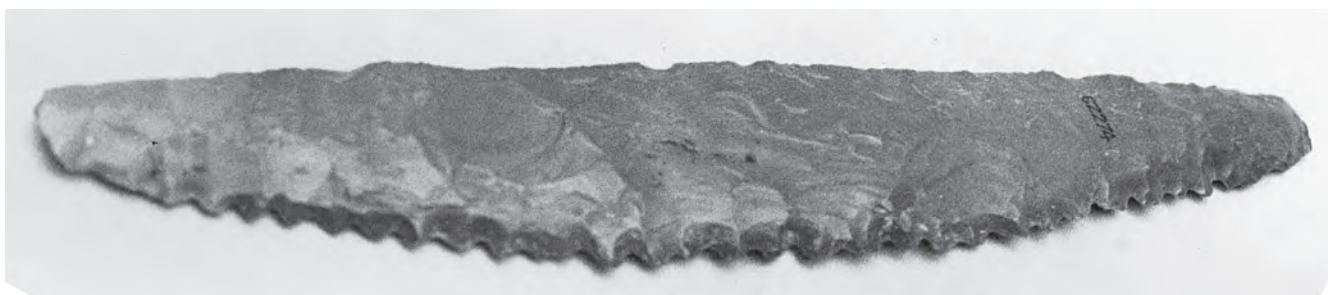


Plate 17. Saw knife. Badari. British Museum, London. EA 62274. *Photographic credit: Lorraine March-Killen.*



Plate 18. Saw. 1st Dynasty. British Museum, London. EA 66064. *Photographic credit: Lorraine March-Killen.*



Plate 19. Saw. New Kingdom. British Museum, London. EA 6046. *Photographic credit: Lorraine March-Killen.*



Plate 20. Pullsaw. New Kingdom. British Museum, London. EA 30245. *Photographic credit: Lorraine March-Killen.*



Plate 21. Bow and drill stock with stone cup. Petrie Museum of Egyptian Archaeology. Bow UC 7085; stock UC 7084; stone cup UC 19835. © *Petrie Museum of Egyptian Archaeology, UCL.*



Plate 22. Bow and Drill. New Kingdom. British Museum, London. Bow. EA 6040; Drill. EA 6042. *Photographic credit: Lorraine March-Killen.*



Plate 23. Awl. New Kingdom. British Museum, London. EA 6055. *Photographic credit: Lorraine March-Killen.*

Chapter 3

Bedframes

Predynastic Burials

Many Predynastic burials in the Nile valley were laid on or covered with matting made from plant fibres. Good examples occur in the early Predynastic cemetery at Bahan excavated by Reisner and Firth during the 1907-11 archaeological survey of Nubia (Reisner & Firth 1910: 115–147). Some of the burials at Bahan contained not only matting but also wooden poles, some of which were badly decayed. These poles were usually placed parallel to the body.

One particularly fine burial, from grave 17:86, was found intact. It comprised of a female skeleton, covered, and lying on a mat (Figure 3). This was then placed on a grid of fine branches and tree stems which were supported at the ends by two long poles running parallel to the body. Another burial, 17:7, was originally considered as an early form of box burial, for the body was laid on a heavy framework of wood, (Figure 4), which was considered to be the base of a burial box. However, George Reisner later concluded that this burial was in fact placed upon a primitive bed, for the body and frame were covered with the common fibre matting (Reisner 1923: 208–227). As for the jointing of this particular frame, no records seem to have survived.

Bedframes

1st Dynasty (Plates 24, 25, 26)

A large number of 1st Dynasty bedframes were discovered by Petrie at the great cemetery of Tarkhan (Petrie 1913: 23, pl. VIII). The bedframes discovered showed a large variation in style and craftsmanship. The webbing for these bedframes ranged from elaborate slots cut around the frame through which passed leather straps to simple reed and rush work string wrapped about the frame and woven

to form matting. A single small bedframe pole fragment, which was discovered at Tarkhan, is now preserved in the Manchester University Museum, 5465, (Plate 24). The pole displays the common woven string plaiting pattern of this age. The string is made from woven rush and wrapped around the pole before being plaited in groups of four in a one over one under band weave. A retaining braid of string is placed against the pole running along its entire length (Plate 25). This enables the weave to start smartly and reduces any wear from movement when tension was placed on the matting.

The constructional jointing of all these bedframes maybe classified into four types (Plate 26). The simplest in construction, Plate 26 bottom right, was made from a conveniently formed branch, which had grown to a right-angled shape, being strong and capable of taking weight at the elbow. A hole was cut in the branch to house a thinner cross pole; each leg was similarly designed and the webbing would have been made from plaited rush and reed (Baker 1966: 22, fig. 4.).

1. BEDFRAME (PLATES 27, 28, 29)

1st Dynasty, Tarkhan.

Ashmolean Museum, Oxford. AN1912.617.

Length 1480 mm, width 840 mm.

This very simple rectangular bedframe (Plate 27) consists of four lengths of square wood very roughly finished which make the side and cross rails and are through mortised and tenoned together (Plate 28). On the inside and bottom surfaces of the rails are slots through which leather straps would have passed and then woven to form the matting. The legs of this particular bedframe are lost but would have been similar to the leg and bedframe

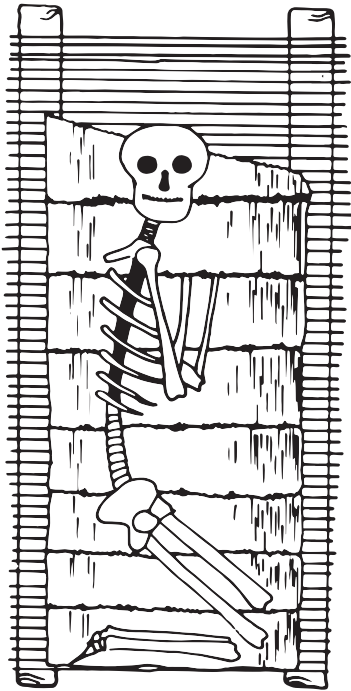


Figure 3. Predynastic burial. (Bahan, Grave 17:86).

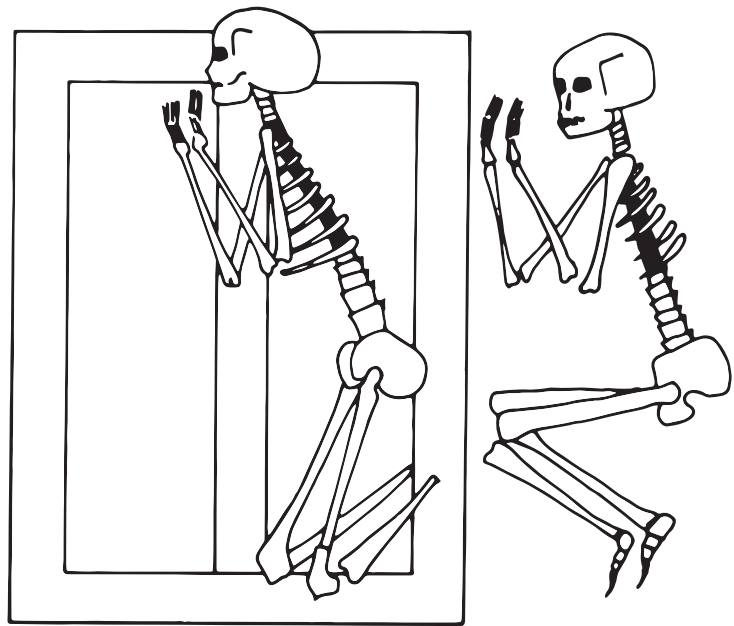


Figure 4. Predynastic burial. (Bahan, Grave 17:7).

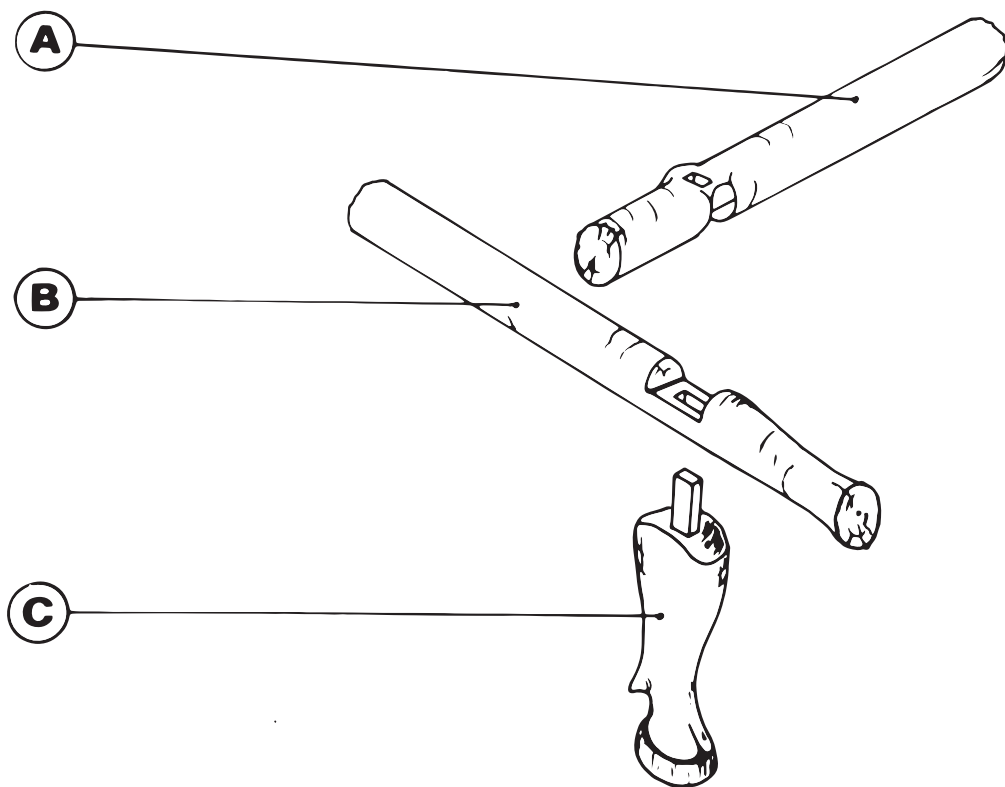


Figure 5. Bedframe construction. Medelhavsmuseet, Stockholm. MM 10.232.

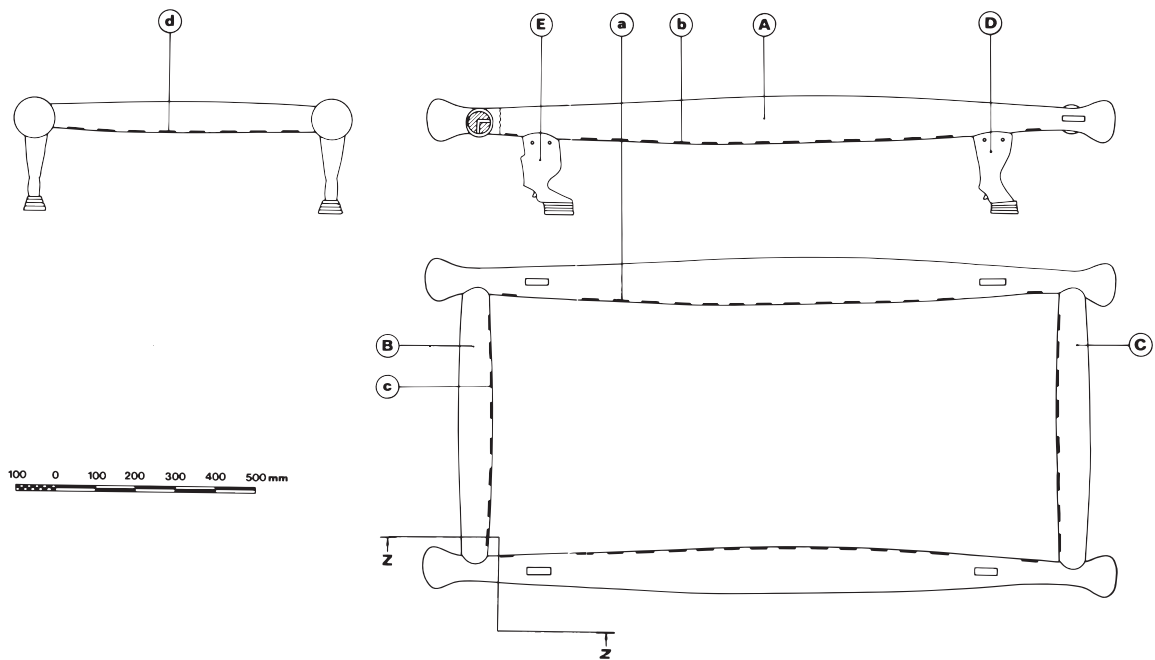


Figure 6. Bedframe. Manchester University Museum, 1st Dynasty, 5429.

shown in Plate 26 top left. There are two holes at the top of this leg through which would have passed a strip of leather; when tied about both elements it would give the joint extra rigidity.

On the underside of this bedframe (Plate 29) one may see clearly the webbing slots and at the ends of the side rails the large mortise hole for the leg tenon to engage in. The leg to side rail joint is in fact a stub mortise and tenon, for the mortise does not fully pass through the side rail.

Undoubtedly this simple bedframe construction must be similar in design to the Predynastic example we examined in Figure 4 and discovered in cemetery 17 at Bahan (Reisner and Firth 1910: 115–147).

2. BEDFRAME (PLATE 30 AND FIGURE 5)

Date uncertain.

Medelhavsmuseet, Stockholm. MM 10.232.

Length 1694 mm.

This is a very fine dark wood bedframe; it is certainly later than the 1st Dynasty, Plate 30. However, it still conforms to the second type of bedframe construction discovered at Tarkhan (Plate 26, top right). This is where the leg, side and cross poles converge in one joint, a unique concept, for the lashing from the leg not only ties the side pole but also the cross pole firmly into position.

The example preserved in the Medelhavsmuseet is indeed very fine; the jointing structure is illustrated in

Figure 5. It may be seen that the cross pole (A) and the side pole (B) are jointed by a cross halving joint, with a mortise cut through the centre of the joint to house the bed leg (C). These joints are well cut and the finishing of the wood is good. The webbing of this bedframe was made from leather straps which pass through seventeen holes along the inside of poles (B).

This type of bedframe construction, where all joints converge at one place, often means that the length of the bedframe is shorter than those examples where the side pole and cross pole are jointed away from the leg, Plate 26 bottom left. Obviously shorter bedframes required a contracted sleeping position and as the side poles got shorter the bedframe evolved into a stool.

3. BEDFRAME (PLATES 31–34 AND FIGURE 6)

1st Dynasty, Tarkhan, grave 144.

Manchester University Museum. 5429.

Length 1760 mm, width 840 mm, height 250 mm.

Petrie 1913: 24, pls. VIII and IX; Baker 1966: 23, figs. 8 and 9.

This bedframe was the largest discovered by Petrie at Tarkhan, Plate 31, and one of the best preserved; in construction it conforms to the third type of design found from the 1st Dynasty burials (Plate 26 bottom left). The side poles of this bedframe are well formed and have been smoothed by sandstone. In section (Figure 6) these poles

(A) are circular, the diameter of which is slightly larger in the centre of the poles than at the ends where the head (B) and foot (C) poles are jointed by simple through mortises and tenons to the side poles. Both ends of the side poles are neatly formed with papyrus flower terminals, this is a common design element found on furniture of this period and the Old Kingdom (Plate 32).

In Plate 32 we may see the remains of a leather sheath which was sunk into position or glued by some early adhesive, gum or resinous material, to the handle. Along the entire length of both side poles may be found traces of the leather covering (Plate 33). On the inside (a) and bottom (b) surfaces of the side poles are fifteen rectangular holes, cut with a thick bladed mortise chisel; thirteen of these holes are between the front (D) and rear (E) legs of the bedframe. Both head (B) and foot (C) poles are of an elliptical cross section, in each are eight holes on the inside (c) and bottom (d) surfaces of poles (B) and (C). Through these rectangular holes (see section Z-Z) would have passed leather straps; however, none of the webbing remains. These types of bedframe that have leather straps to form the woven webbing seem less common than those woven with reed and rush.

On close examination of the frame joints they would seem to have been wedged, for on discovery the frame had to be screwed together, to give it extra rigidity (Plate 32). If in fact these joints were originally wedged, for the joint is loose and there is no visible way of holding it firm with leather ties. The curved shoulders of the tenoned crossbars (B) and (C) would have acted as the support as wedges were forced in through gaps in the joint.

The legs of this bedframe are finely carved in the commonly found bovine form. This intricate carving is shown in Plate 34, which shows the clean fine lines of the hoof. The tenon of the leg is recessed into the curved shoulder which fits accurately into the mortise cut vertically through the side poles (A). It is unlikely that wedges were driven into this joint, for at the top of each leg are two small holes, either being drilled or pierced, through which passed leather thongs which bound each leg to the side poles (A). These leather thongs when soaked in water would shrink and when tied about both elements would hold the joint firmly together.

4. BEDFRAME

1st Dynasty, Saqqara, tomb S3471.

Height 240 mm, width 660 mm, length not reconstructed.

Emery 1949: 57–58, fig. 28; Baker 1966: 25, fig. 10.

Another bedframe from the 1st Dynasty and dated to the reign of Djer, was discovered by Emery at Saqqara. In construction it was similar to the bedframe discussed above, no 3. It was not as well preserved, for the side poles were badly decayed and it could not be accurately reconstructed. The papyrus terminals to the side poles

of this bedframe were not covered with leather but were encased with thin sheet copper, beaten to the shape of the core terminal and pinned with tiny copper tacks; also sheathed with copper were the hoof drums of this bedframe. Other examples of furniture discovered in tomb S3471 also show the technique of encasing wooden cores with copper to prevent daily wear and give a decorative finish (Emery 1949: 57–59, figs. 28, 30 and pl. 11a).

5. BEDFRAME (PLATE 35)

Kunsthistorisches Museum, Vienna. 6128.

New Kingdom.

Length 1190 mm, width 560 mm, height 180 mm.

Several bedframes conforming to the third type of bedframe construction discovered at Tarkhan are preserved in collections about the world. One of the best is in Vienna; it is dated as New Kingdom, as many of the other bedframes are, but it still shows the typical design elements which we see founded during the Early Dynastic Period. This shows that simply designed and constructed bedframes remained a popular piece of furniture through to the New Kingdom. A further bedframe of similar design and in excellent condition is preserved in the Museu Egipci, Barcelona, E-434, length 2030 mm, width 900 mm, height 330 mm.

6. BEDFRAME DIAGRAMS FROM THE TOMB OF HESYRA (FIGURES 7–10)

3rd Dynasty, Saqqara. Tomb of Hesyra.

Quibell 1913: pls. XVI–XXII; Baker 1966: 34–35, fig. 27c.

Most of the furniture that existed during the Early Dynastic Period and Old Kingdom has not survived. One of the ways in exploring the size and complexity of this furniture is by the study of reliefs and wall paintings that still remain in tombs of that age.

During the 1911–12 excavations at Saqqara the tomb of Hesyra, an official scribe to King Djoser, was reopened by Quibell. The work undertaken during that year of excavation was the recording of a unique set of wall paintings, some of which were badly decayed, from this tomb. These paintings display the common household articles and general tools used by Egyptians of Hesyra's position at the transition of the Early Dynastic Period to the Old Kingdom. Illustrated in the wall paintings are eight different types of bedframe, as well as other types of furniture which will be discussed in later chapters. These drawings, as faithfully reproduced from the original paintings as possible, show the common tendency for draughtsmen of that age to combine both the side and front elevations or the side and plan elevations of a product or piece of furniture in one drawing, painting or relief.

From Figure 7, we see in the top drawing the plan and side elevations of a simple bedframe, it has obviously been designed to slope from the head to its foot as do other bedframes in this series of paintings. The legs are carved in the bovine form and are mortised and tenoned into the side rails and then lashed with leather thongs. Papyrus terminals cap the head end of both side rails of this bedframe, while the frame at the bedframe's foot rests upon the ground and is not supported by legs. This is the first bedframe we have examined that slopes gently towards the foot. It is interesting to see how this occurred by the removal of the foot leg supports but from now on there seems to be movement in favour of sloping bedframes.

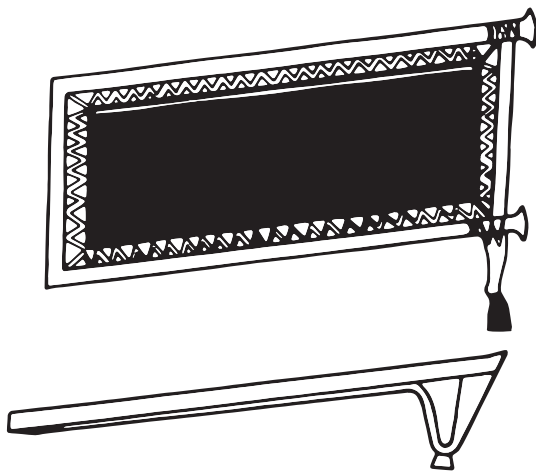


Figure 7. Bedframes. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).

This would be achieved by either the removal of the foot legs as we have already seen or in the example of a four legged bedframe the head legs would be cut slightly longer than those used for the foot end. The mattress is shown as a sheet of fabric or leather attached to the side and end rails by laces which act as springs, similar to the modern bed of a trampoline.

In the lower illustration, Figure 7 (bottom), is a similar sloping bedframe with legs of an unconventional type, only commonly used in the Hesyra series of bedframes. They seem to be of bent wood the lower bend resting on a drum so eliminating any rocking. Whether these particular legs were cut from the solid, artificially bent or even grown to that shape is uncertain, although we do have evidence from the Middle Kingdom that wood bending by artificial means was successfully carried out by craftsmen (Gale *et al.* 2000: 356–357, fig. 15.20).

In Figure 8 we see two similar sloping bedframes; the top bedframe, although showing no legs, obviously slopes from head to foot. This example is constructed of planks of wood, jointed to the side rails; this type of construction is uncommon, for a further soft mattress would be needed on the planks. Such an unusual construction was later effectively used in the royal bedframe discovered at Giza and comprising part of the furniture of Queen Hetepheres I. (c. 2613 B.C.).

The remaining four bedframes (Figures 9 and 10) show four-legged bedframes each with a gentle slope. Those in Figure 9 have legs fashioned in the unconventional form while those illustrated in Figure 10 have bovine formed legs, being held to the side poles by lashings. As an additional design element a frame has been erected at the foot end to stop the bedclothes slipping from the now

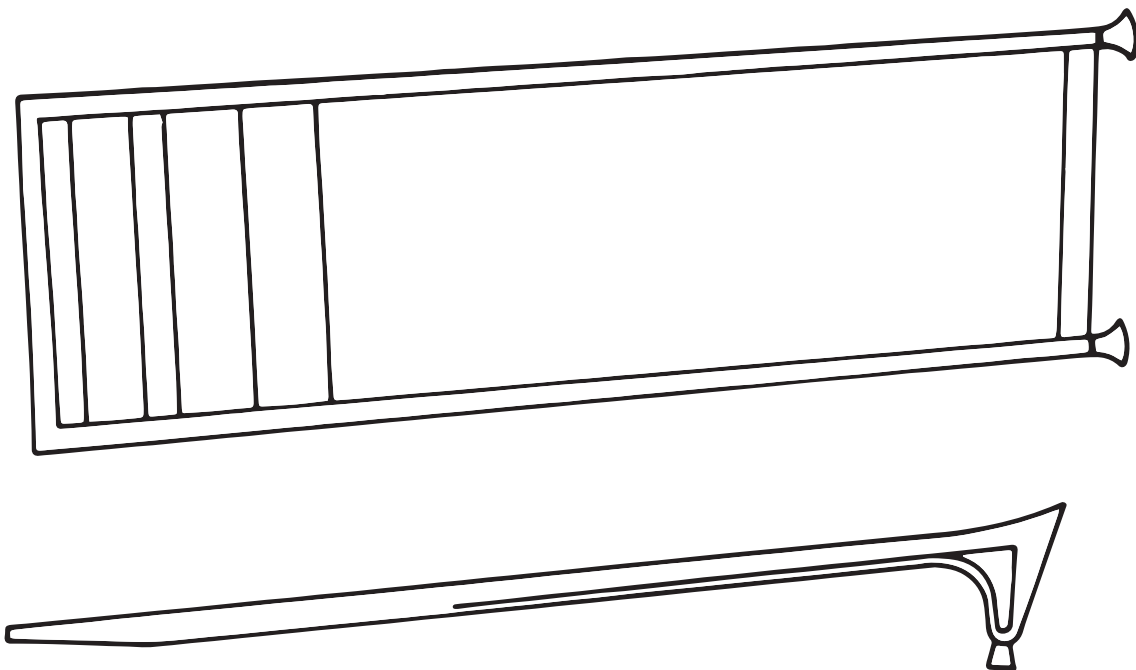


Figure 8. Bedframes. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).

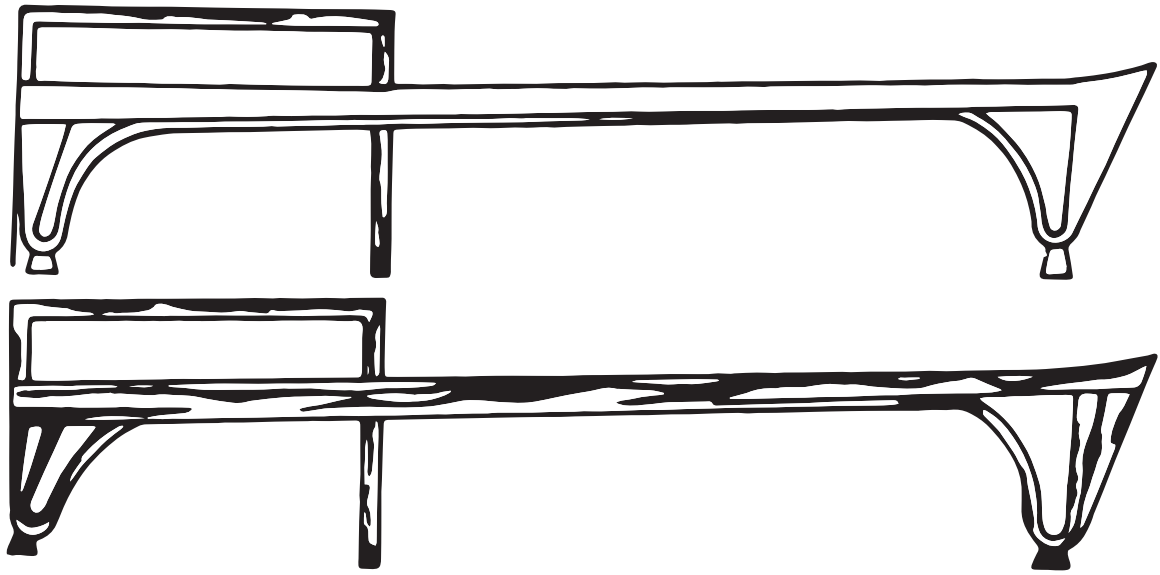


Figure 9. Bedframes. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).

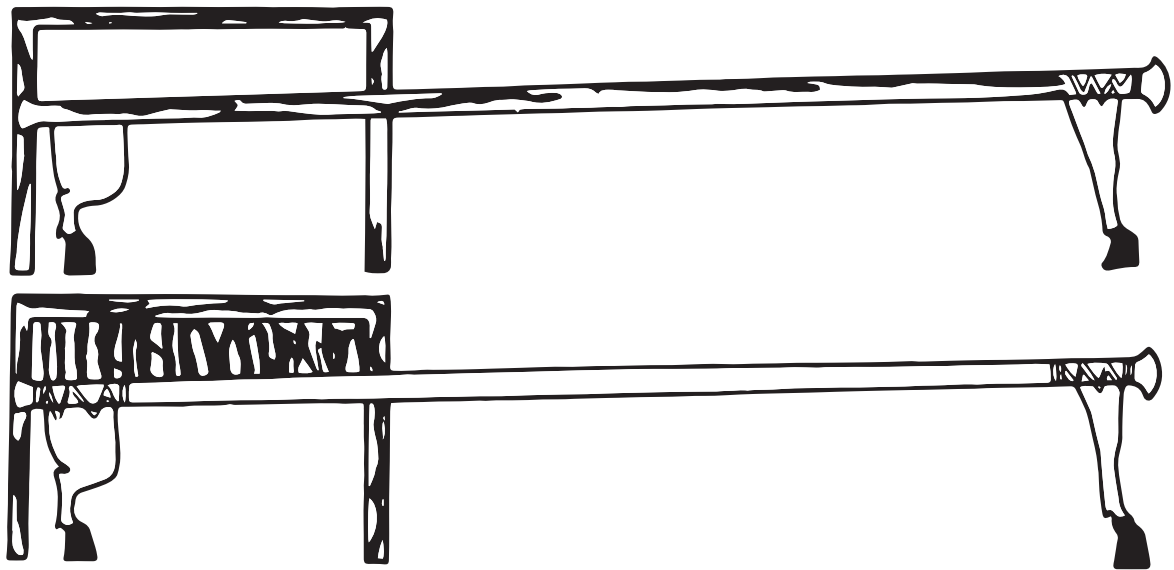


Figure 10. Bedframes. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).

sloping bedframe. It is interesting to see that at this early design stage the footboard frame has a separate function, for it does not support the bedframe, although it has legs which reach the ground, they act only as secondary legs, for the main weight is taken by the unconventional or bovine fashioned legs at the foot end. It is not until the 4th Dynasty that we see that the footboard is finally jointed to the foot rail which completes the design process. From the lower bedframe (Figure 10) we see that the footboard frame has been filled with very roughly cut vertical panels.

Some of the elements of these bedframes are strongly marked to show grain patterns, or perhaps to represent rare woods such as African Blackwood.

7. ROYAL BEDFRAME OF QUEEN HETEPHERES I (PLATE 36 AND FIGURES 11-12)

4th Dynasty, Giza.

Egyptian Museum, Cairo, JE 53261 (original).

Reproduction, Plate 36, made by Cabinetmaker: Joseph

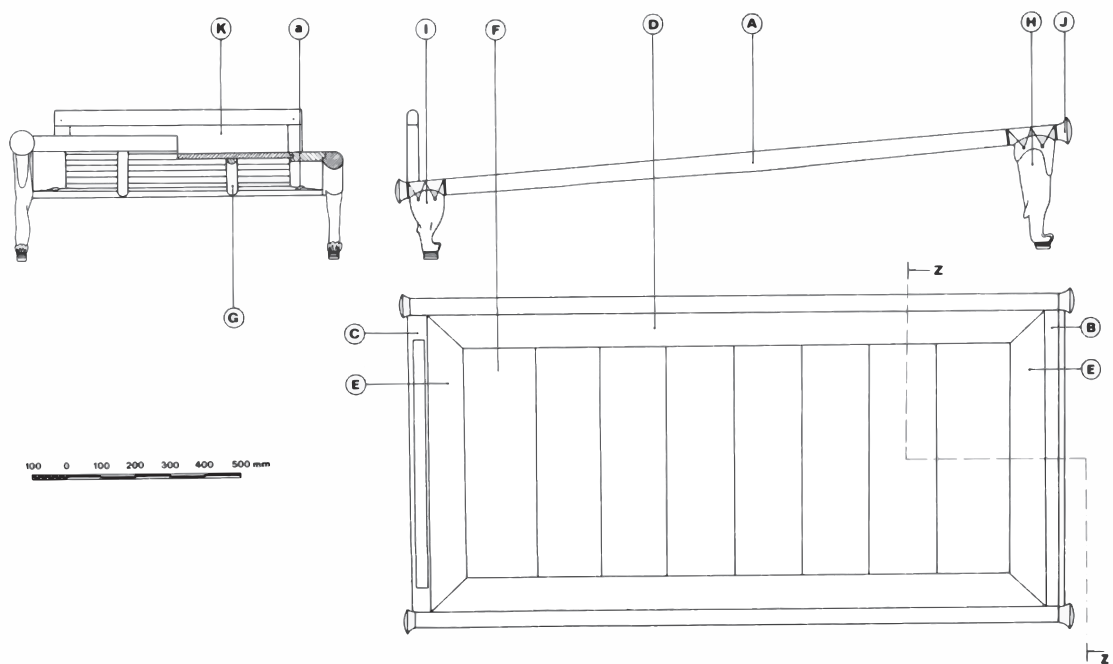


Figure 11. Bedframe. (Queen Hetepheres I, Giza, 4th Dynasty), Egyptian Museum, Cairo. JE 53261.

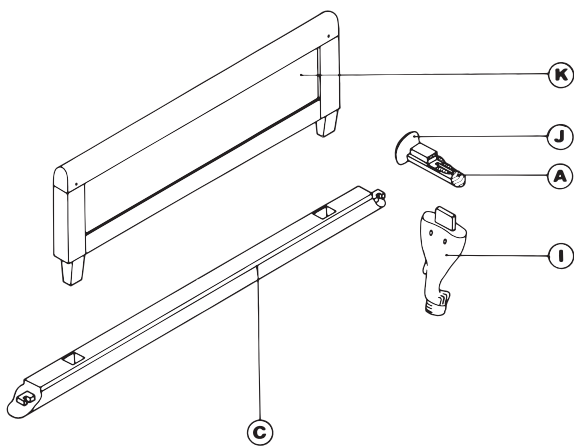


Figure 12. Bedframe. (Queen Hetepheres I, Giza, 4th Dynasty), Egyptian Museum, Cairo. JE 53261.

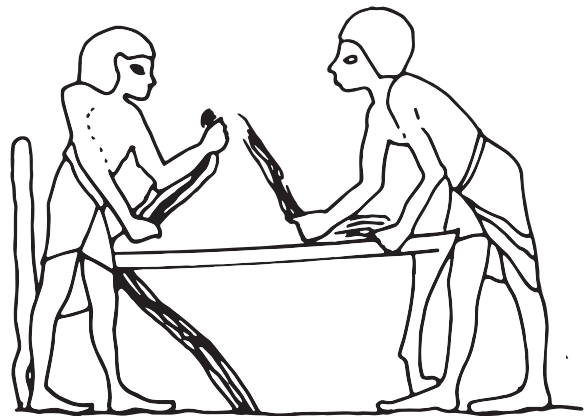


Figure 13. Men stringing a bedframe. (Tomb painting, Thebes, Tomb of Menkheperreseneb TT 112, 18th Dynasty)

Gerte, 1886–1967.

Bed of Queen Hetepheres I (reproduction).

Egyptian, Old Kingdom, Dynasty 4, reign of Snefru to Khufu, 2575–2528 B.C.

Egypt, Giza, Tomb G 7000 X (original).

Wood, gold, copper, silver, leather, faience, ebony.

Height × width × length: 43.6 × 97.5 × 177 cm (17 1/8 × 38 3/8 × 69 3/4 in.)

Museum of Fine Arts, Boston.

Harvard University – Boston Museum of Fine Arts

Expedition.

29.1858.

Reisner and Smith 1955: 32–33, fig. 33, pl. 26 a–e;

Baker 1966: 43, 45, figs. 31, 37.

Queen Hetepheres' bedframe was discovered by Reisner during February 1925 at the bottom of a shaft in a small burial chamber close to her son Khufu's pyramid at Giza. This bedframe was originally placed in the tomb up-side down and the footboard had been separated from

the bedframe. Certain wooden elements of the bedframe were in reasonable condition due to the thick gold sheet which had been beaten about the wooden cores. From these wooden cores it was possible to layout the general size and the type of construction used on this bedframe, although some of the wooden elements which were cased with thin gold sheet, or had no protection at all, had badly decayed to a fine powder. From the microscopic study of the wooden fibre powder, which remained on the chamber floor, it became possible through very painstaking research to reconstruct the general appearance and form of this royal bedframe.

Reconstructing the bedframe was left to Stewart, a member of Reisner's survey team (Figure 11). The side rails (A), head (B) and foot (C) rails are made of circular sectioned wood (see sectional front elevation Z-Z), the top surface being flattened and connected by a simple lap joint to side boards (D) and end boards (E) on which the mattress would be placed. Both boards (D) and (E) were mitred together and the butt joint fastened by a small copper plate (a) tacked to the underside of both boards. The interior of the bedframes mattress support was constructed from boards (F) each being jointed to boards (D) by a bare-faced tongue and groove, (see detail from sectional front elevation Z-Z). Beneath boards (E) and (F) run two semi-circular sectioned runners (G) which are mortised and tenoned into rails (B) and (C).

The legs (H) at the head of the bedframe are taller than those legs (I) at the footboard end. They are fashioned in a feline form and set on drums; this bedframe has a distinct decline towards the foot end. At both ends of the side rails (A) are papyrus flowering terminals (J). The jointing of legs (I) and (H) to the side rail (A) and the head (C) and foot (B) rails was the only area in reconstruction which was a cause for concern. It is thought that the tenon of rail (C) (Figure 12) which fitted into a mortise in rail (A) was held in position by the tenon of leg (I), being offset and cutting partly through the tenon from rail (C). This whole arrangement was finally held by leather thongs which passed through two holes in the top of legs (I) and (H) and about the side rail (A).

Two tapered tenons hold the footboard (K) in two mortises in foot rail (C). The footboard is made from four pieces of wood, the top piece being rounded over. Each member is rebated to hold the centre board which is inlaid with a flower and feather rosette design; the four sections of framework are finally mortised and tenoned and then secured by dowels.

8. MODEL BEDFRAME (PLATE 37)

12th Dynasty, Hawara.

Petrie Museum, University College, London. UC 16139.

Length 490 mm, width 237 mm.

Petrie 1912: pl. XXX; Petrie 1937: no. 211.

It is uncertain why this model bedframe was manufactured, Plate 37, although it is possible that it may have been used as a craftsman's or studio model, for the standard of workmanship is very good. This small example of bedframe is important for it shows a series of new design elements not found in this type of furniture until the 12th Dynasty but then extensively used from then on.

The frame of this model bedframe is made from rectangular sectioned wood elements which have been well finished. It has been jointed by four stub mortises and tenons, these being dowelled to give the frame extra rigidity. Thirty holes are drilled along the inside of the side rails and eleven inside both of the cross rails. Through these holes would have been threaded a fine weave of rush, similar to Plates 24 and 25, but because the string used was finer a more controlled weave could be achieved. This development draws from both the leather strap through slot method and the binding of reed and rush about the frame. Beneath the woven bedframe are two stretchers (one now broken) which are stub mortised and tenoned into the inner side rails. These stretchers act as a support to the body, eliminating large amounts of strain on the woven reed and rush string. At first these stretchers were flat but soon became curved to take the shape of the body, making them more comfortable when sleeping. We may see from a later wall relief in the tomb of Menkheperasesneb (TT 112) at Thebes, men weaving cord across a bedframe (Figure 13).

The legs of this bedframe, Plate 37, are untypical, like Hesyra's bedframes, but never yet seen on a full size bed. They are neatly finished, the bottom being set on drums and the top jointed with a stub mortise and tenon to the underside of the side rails; each of the joints is secured by four dowels. At the foot end of the bedframe, a single panel has been placed as the footboard. It is held at both ends and to the edges of the side rails by angle brackets again dowelled to both elements.

9. BEDFRAME (FIGURE 14)

Nubian, Classic Kerma, about 1700–1550 B.C.

Reisner 1923: 213–223; Baker 1966: 144, fig. 220.

Fragments of bedframes similar to Plate 37 were discovered by Reisner at Kerma in Nubia. From the many fragments it has been possible to reconstruct the complex jointing of these bedframes. Figure 14 shows one of the typical bedframes of this period as constructed from the many fragments excavated. One of the most striking things with these bedframes is that they are much larger than any other bedframe we have examined. The legs of this bed, unlike that in Plate 37, are fashioned in the form of the front (A) and hind (B) legs of an ox. These have been carefully carved and many that were discovered show fine modelling of the muscles and veins found in ox legs. Both the front (A) and hind (B) legs of this bedframe were stub

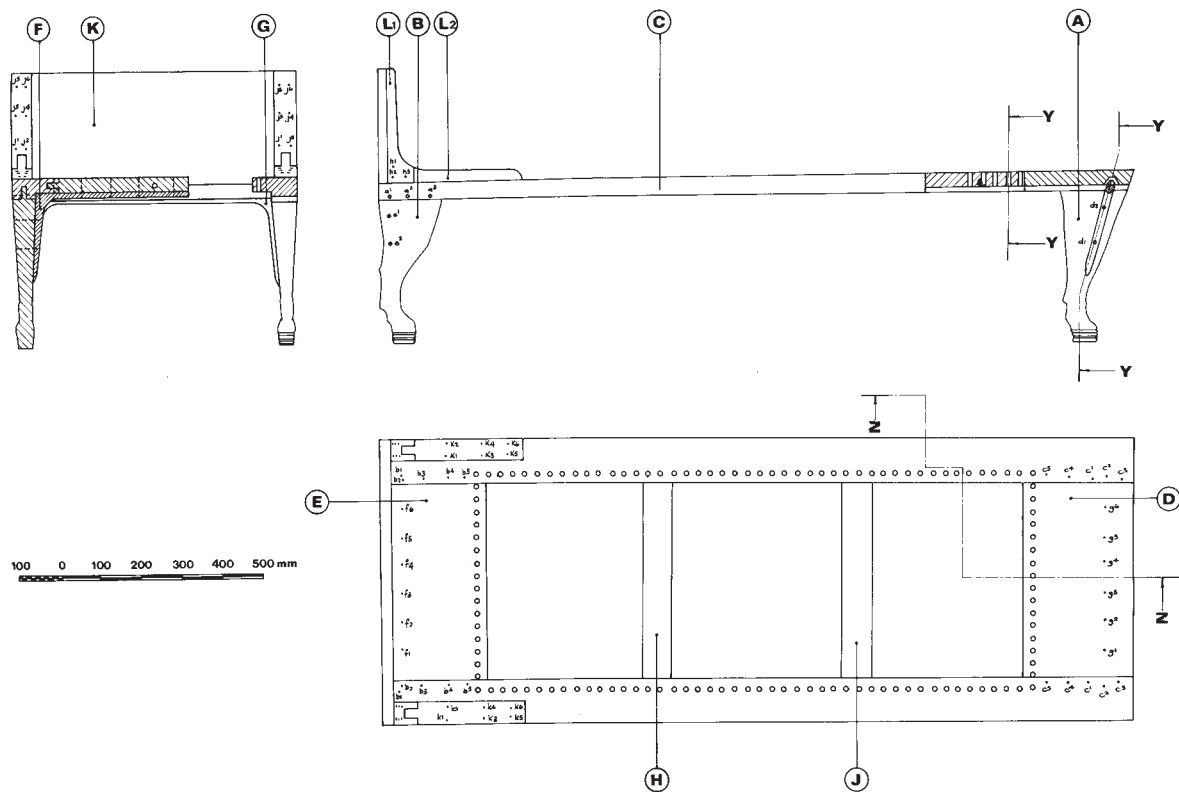


Figure 14. Bedframe. Kerma

mortised and tenoned into the underside of the side rails (C). These joints were dowelled at a1, a2, a3 along the edge of side rail (C). The very wide head (D) and foot (E) rails were jointed at the side rails (C) by a double mortise and tenon. Through the outer elements of each of the double mortise and tenon joints pass three dowels b1, b2, b3 and c1, c2, c3, while the inner elements are held by two dowels b4, b5 and c4, c5.

Supporting the legs (A) and (B) and attached to both the rails (E) and (D) are two leg supports (F) and (G), each with a double elbow. Leg support (F) is dowelled to legs (A) at d1, d2 and leg support (G) is dowelled to the hind legs (B) at e1, e2. Also both leg supports (F) and (G) were dowelled respectively with eight dowels to rails (D) and (E) at c2, g1, g2, g3, g4, g5, g6, c2 and b2, f1, f2, f3, f4, f5, f6, b1. Leg support (F) is also tied to rail (D) by a leather thong through a hole in the centre of the underside of rail (D), see (sectional side elevation Z-Z and Y-Y).

The webbing holes are neatly drilled out through rails (C) and both rails (D) and (E). Across both side rails (C) are two stretchers (H) and (J) mortised and tenoned into rails (C), but not dowelled, instead they were tied by the webbing of the bedframe.

To hold the footboard (K) in position two angle brackets were employed. Each bracket seems to have been made from two parts (L1, L2) and dowelled at h1, h2, h3.

Both brackets (L1, L2) were also dowelled to the footboard (K) by three pairs of dowels j1, j2, j3 and into the side rails (C) at k1, k2, k3. Both in construction and design this bedframe is of exceptional standard and very similar to the royal and high quality bedframes found in the Egyptian New Kingdom.

10. BEDFRAME (PLATE 38)

New Kingdom, Deir el-Medina.

Narodowe Muzeum, Warsaw. 139068 MNW.

Length 1700 mm, width 750 mm, height 300 mm.

We have previously seen that the type of bedframe discovered at Tarkhan was still being manufactured, although greatly improved in the techniques employed, during the New Kingdom. This construction, apart from the royal and high quality bedframes, was by no means the only popular design available. From the 11th Dynasty through to the New Kingdom a new style evolved, very modest and simply designed, but nevertheless beautifully

functional. Preserved in the Narodowe Muzeum, Warsaw, is a very fine example of this new style of bedframe (Plate 38). The legs of this bedframe are plain and straight, the top of each being rounded while the foot is left squared off. The side and ends rails of this bedframe are roughly elliptical in section, the ends rails are jointed to the legs by a through mortise and tenon with a similar joint for the side rail below. With all types of simple furniture the joinery is very crude and it is customary for wedges to be driven into the joint to strengthen it. Between the front and back legs are two stretchers which are stub mortised and tenoned to the inside of the legs. Much of the bedframe's webbing remains, it was made by winding rush and reed cord around the rails of the bedframe and then weaving it across the open space.

Bedframes discovered in the Tomb of Tutankhamun

A great wealth of furniture was discovered in the tomb of Tutankhamun, and included five bedframes of fine quality and technical merit. (These factors also occur in every category of furniture discovered in the tomb). Since a wide range is covered by these bedframes, I have omitted any description of the three bedframes from the tomb of Yuia and Thuiu, c. 1400 B.C. for they are very similar in design and construction to the first bedframe we are to examine from the Tutankhamun collection (For details of the Yuia and Thuiu furniture, see Quibell 1908).

11. ROYAL BEDFRAME (PLATE 39)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62017. Carter No. 80.

Length 1815 mm, width 680 mm, height (overall) 631 mm.

Carter 1972: 48; Baker 1966: 105, fig.139.

This type of bedframe construction would have been the most modest in the higher quality range produced. It is similar in construction to the bedframes discovered at Kerma having slight modifications to the feet and footboard. The feet of this bedframe are fashioned in the form of lion's legs which are set on drums encased with bronze.

Between the front and back legs are two stretchers, above these and connecting the legs to the end rails by dowels are two double elbow angle brackets. The footboard, which is made from a rectangular frame and filled with vertical panels, is fixed to the side rails of this bedframe by angle brackets. Like the Classic Kerma bedframes, each being made in two parts, the vertical and horizontal elements of each bracket are connected by a bridle joint and then secured by three dowels. As a decorative form the face of the vertical element of the angle bracket rolls over the top rail of the footboard.

Both side rails are prominently curved and between them are two equally sweeping stretchers below the bedframe's webbing. The webbing is made from six linen cords which pass through holes 30 mm apart and 26 mm from the inside edge of the side rail. These cords are then woven in a diagonal weave, and the ends of each cord are neatly tied and concealed beneath the side rails. The entire bedframe and webbing was finally finished with gesso.

12. ROYAL BEDFRAME (PLATE 40)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62016. Carter No. 47.

Length 1840 mm, width 901 mm, height 749 mm.

Carter 1923: 193, pl. XLIX AB; Baker 1966: 103–104, figs. 134–135; Seton-Williams 1980: Abb. 126f; Beinlich and Saleh 1989: 20.

This African Blackwood bedframe is similar in design and construction to the previous example we examined, although of better quality. The lion's claws and drums of this bedframe are sheathed with silver foil, while parts from the cut out figures in the footboard are sheathed with gold and inlaid with ivory. The footboard shows the god Bes dressed in a small gilded skirt and wearing a lotus flower head ornament, as are the two rearing lions which support Bes on either side. This group of figures is placed in three identical panels in the footboard, each panel being separated by a papyrus-capped gilded moulding. Each of the finely carved African Blackwood figures is stub tenoned into the mortises in the top and bottom rails of the footboard. Around the top and two end rails of this footboard is incised a series of inscriptions filled with yellow pigment (Beinlich and Saleh 1989: 20). The top rail above the inscription is also covered with thin gold sheet, as are both angle brackets securing the footboard to the side rails of the bedframe. Many of the dowels used on this bedframe are decorated with precious metal caps to add a favourable effect of light metal against dark wood. Beneath the linen cord webbing are two very strongly sweeping stretchers which give support to the bedframe's side rails.

13. ROYAL BEDFRAME (PLATE 41)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62014. Carter No. 466.

Length 1750 mm, width 835 mm, height 690 mm.

Carter 1933: 110, pl. XXXII B.C.; Baker 1966: 102–103, figs. 132–133; Carter 1972: 197–198.

This fine bedframe is of the highest quality and is very well preserved, although slightly warped, for it was discovered on its side. The entire frame is covered with gold sheet 3.5 mm to 4.0 mm in thickness, being worked over the frame and secured to it by either small gold domed tacks or adhesive on the gesso finished core.

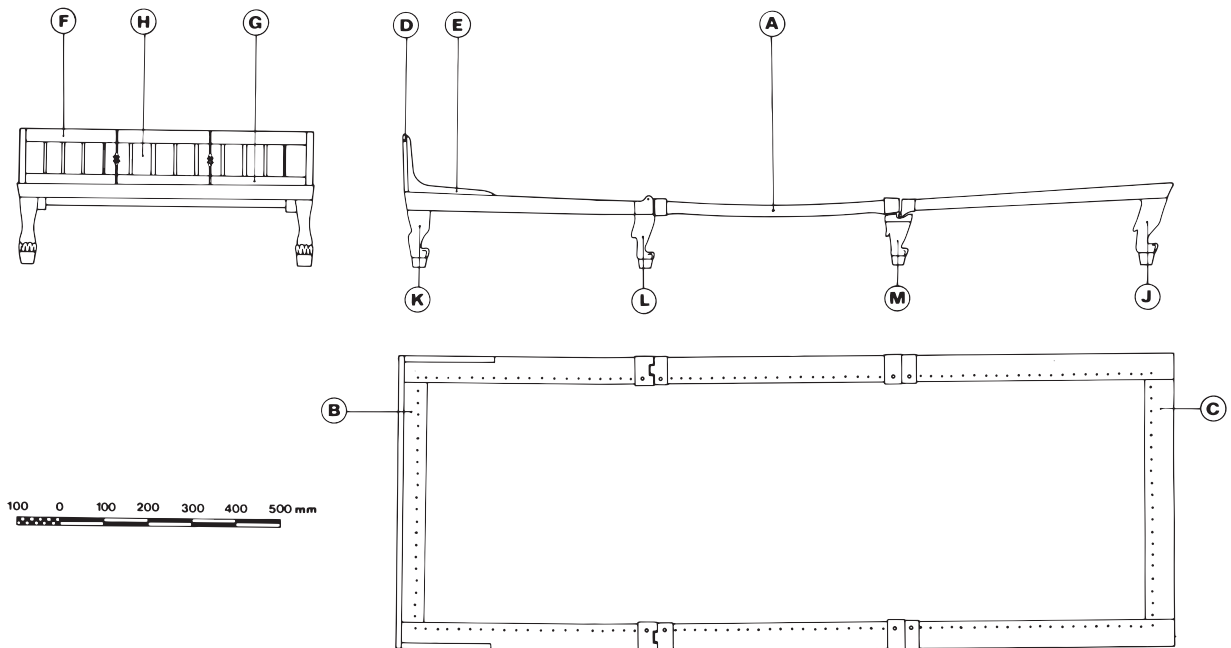


Figure 15. Folding bedframe. Tomb of Tutankhamun, Egyptian Museum, Cairo. JE 62018.

The webbing of this bedframe is also made from linen string woven in an eight strand diagonal weave. Beneath this are two curved stretchers to bear the weight of the body if the webbing slackened. Of great interest is the footboard, Plate 41, also encased with thick gold, and attached by angle brackets in the usual manner to the bedframe's side rails. Again the footboard is divided into three panels by papyrus-capped mouldings. Each panel is neatly carved with a floral design on the wooden core; the outer panels are of slightly better quality. The gold sheeting which covers these panels can be seen to be finely impressed over the carved relief patterns and carefully burnished. This exceptional detail to polishing the gold sheeting of the bedframe has given it a perfectly lasting lustre.

The fourth bedframe (not illustrated) from Tutankhamun's tomb is of similar design to the one we have examined, having figures of the God Bes and Goddess Taweret on the footboard. This bedframe is completely covered with thin gold foil over the gesso-based wooden core, which over the passage of time has darkened and loosened from the core.

14. ROYAL FOLDING BEDFRAME (PLATES 42, 43 AND FIGURES 15–17)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62018. Carter No. 586. Length 1790 mm, width 680 mm, height 495 mm.

Carter 1933: 111, pl. XXXIIA; Fox 1951: pl. 59; Baker 1966: 104, figs. 136–137; Carter 1972: 198.

This particular type of folding bedframe, Plate 42, was not uncommon in Egypt during the New Kingdom, in the Metropolitan Museum of Art, New York, is a small model folding bedframe with round legs (MMA 20.2.13 a.b). The folding bedframe seems to have developed from the need to have portable bedframes for convenient handling when travelling around the country. In a wall painting in the tomb of Ramose (TT50) we see a range of furniture being carried to the deceased's tomb (this scene is illustrated on the front cover of Volume II). A typical long, rigid bedframe is shown being carried above the heads of two porters. By folding the frame it would make its carriage a great deal easier.

The side rails (A) of the folding bedframe (Figure 15) are divided almost equally into three sections, the foot (B) and head (C) rails are stub mortised and tenoned into the side rails (A). Two angle brackets (E) hold the footboard in position by securing it with pegs to the side rails (A). The footboard (D) is of simple design, two horizontal rails (F) and (G) hold thirteen vertical panels (H); these are also connected to the horizontal rails by stub mortises and tenons.

Four pairs of feline formed legs set on bronze drums support the three sections of the bedframe, those at the head (J) and foot (K) of the bedframe are stub mortised and tenoned to the underside or side rails (A) and then secured by dowels. The interior two pairs of legs (L) and (M) are positioned so as to support the bronze hinges which hold the three sections of side rail (A) together.

In Figure 16 we see an exploded orthographic projection of how leg (L) is stub mortise and tenoned into the bronze

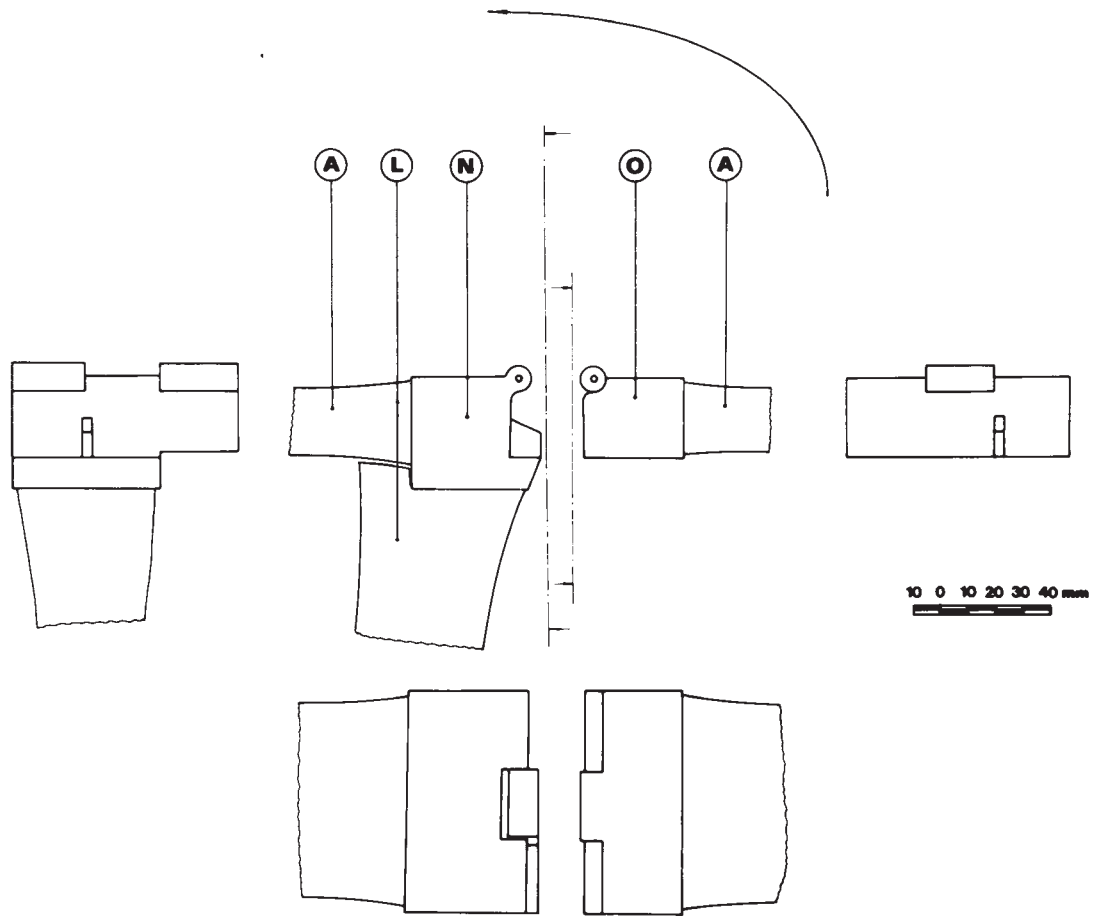


Figure 16. Folding bedframe, detail of hinge. Tomb of Tutankhamun, Egyptian Museum, Cairo. JE 62018.

hinge element (N). The hinge plates are made from thick bronze sheeting being neatly worked about a wooden core and the hinges themselves are coiled over leaving a small hole for the bronze pivot to pass through. Between hinge element (N) and its opposite member (O) is a small mating piece which eliminates movement between the side rails (A) when the bedframe is unfolded and ready for use. The male member is on the inside face of hinge element (N) and the female is in the opposite face on plate (O). Hinge element (O) pivots over (N) when the bedframe is folded, leg (L) remains braced in position so supporting the extra weight of the two forward elements which rest upon it when the bedframe is folded.

Figure 17 illustrates the hinging arrangement of leg (M); it is obvious this time that the hinge which is on the bottom surface of side rail (A) allows the hinge element (P) to pivot under (Q). This permits the bedframe to fold in a double movement provided leg (M) could be designed not to interfere. This meant that leg (M) would either have to be removed or in fact hinged away from under (P) and (Q). This problem was successfully

overcome by the Egyptian craftsman, for leg (M) hinges itself under the string webbing of the bedframe (Plate 43). This is also shown in Figure 17 where leg (M) hinges under the webbing so allowing (P) to pivot under (Q) so trapping leg (M) between both surfaces of the folded webbing. This whole hinging concept is of exceptional quality and shows a comprehensive understanding of the materials used and the methods employed to solve a difficult design problem.

15. THE BED CANOPY OF QUEEN HETEPHERES I (PLATE 44 AND FIGURE 18)

4th Dynasty, Giza.

Egyptian Museum, Cairo, JE 57711 (original).

Reproduction, Plate 44, made by Cabinetmaker: Joseph Gerte, 1886–1967.

Canopy of Queen Hetepheres I (reproduction).

Egyptian, Old Kingdom, Dynasty 4, reign of Snefru to Khufu, 2575–2551 B.C.

Egypt, Giza, Tomb G 7000 X (original).

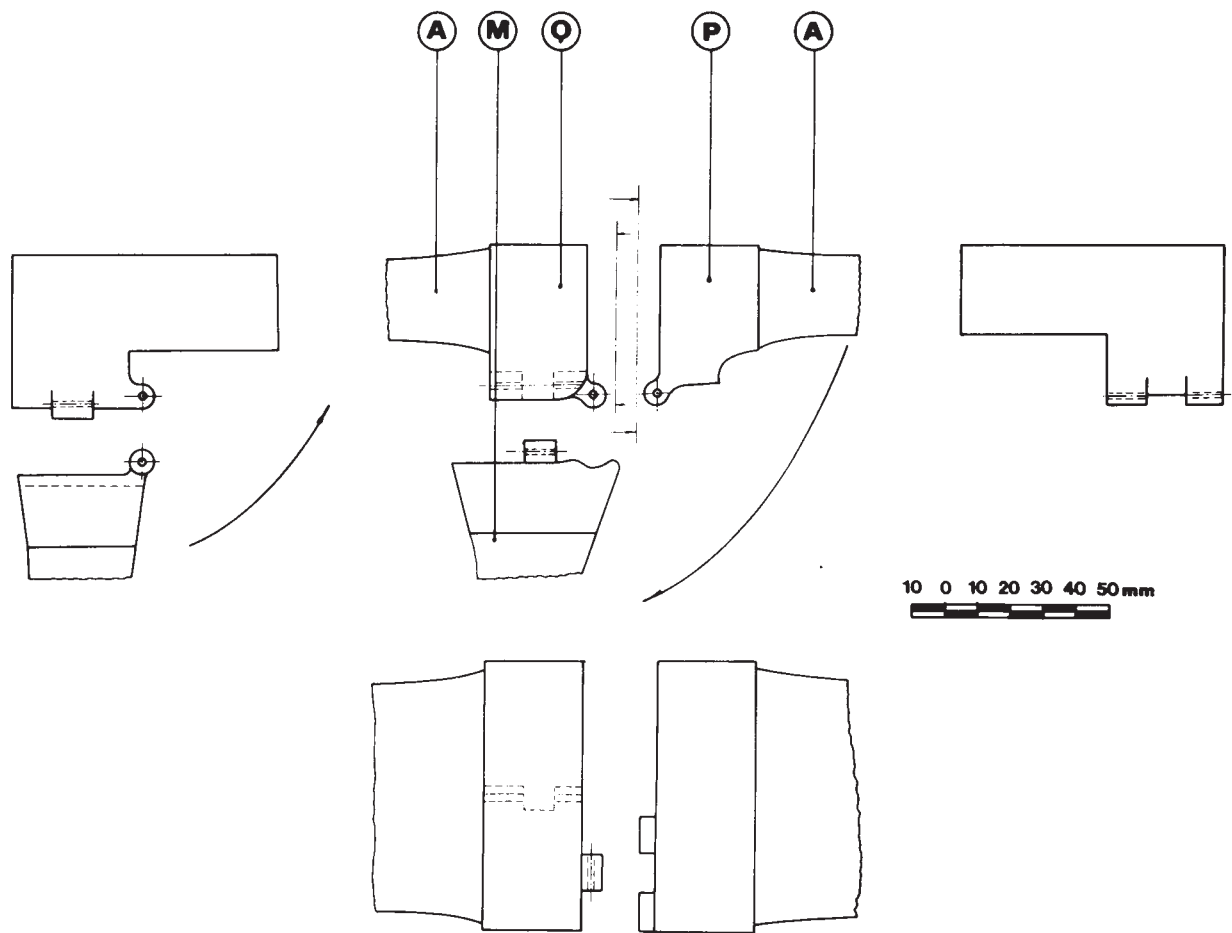


Figure 17. Folding bedframe, detail of hinge. Tomb of Tutankhamun, Egyptian Museum, Cairo. JE 62018.

Wood, gold, copper, silver, leather, faience, ebony.
Height × width × length: 221.5 × 258.8 × 313.7cm (87
¼ × 101 ⅞ × 123 ½in.)

Museum of Fine Arts, Boston.

Departmental Appropriation.

38.873.

Reisner and Smith 1955: 23–25, figs. 23a–c, 24, 25,
26, pls. 5a.b., 6a.b., 7a.b., 8a–c., 9 a–f., 10a–c; Baker
1966: 43, figs. 31, 33–34.

In the tomb of Queen Hetepheres I was also discovered the fragmented remains of a gold bed canopy. It was designed to give the Queen privacy and to protect her against insects and the chill of the night air. This was achieved by placing around the frame and over the roof, linen sheets and curtains, supported on hooks driven into the top rails of the frame.

The construction of the canopy is very simple (Figure 18); each element was made of wood and decorated with a sharp mat pattern, before heavy gold sheet was applied to the wooden core. Because the canopy had to

be easily transported and assembled, all the load bearing and wearing areas of joints are clad in copper sheet for protection. This was achieved in many places by producing complicated developments which were bent about the joint and tacked with tiny copper pins onto the wooden core over the gold sheet.

Basically the canopy is a box with one open side to allow access to the bedframe and other furniture which may have been housed within the canopy. The entrance jambs (A) of the canopy have on both inside faces the titles and names of Sneferu, Queen Hetepheres' husband. One of the most interesting joints is the three way connection of the jamb (A) lintel (B) and top side beam (C) (Figure 18.1). The side beam (C) slots onto a tenon on the rear of the jamb (A), while the lintel (B) fits into the jam (A); notice the use of protective copper sheet on all those areas which are exposed to wear. The base of the jamb (A) is connected to the side floor rail (D) by a simple mortise and tenon (Figure 18.2). The bottom edges of the floor rails (D) and (E) are also protected with copper sheeting and are tacked into position.

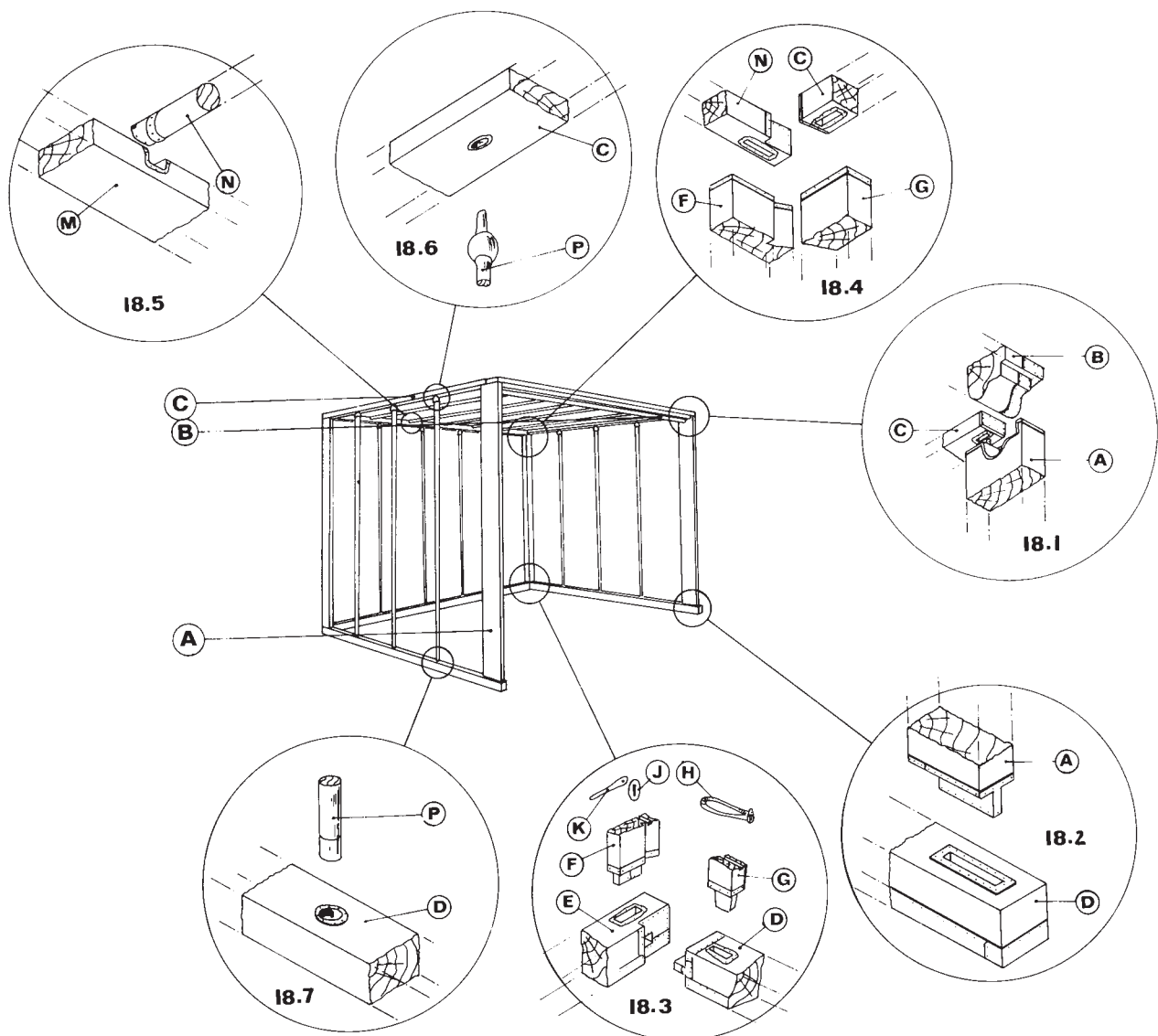


Figure 18. Bed canopy. (Queen Hetepheres I, Giza, 4th Dynasty), Egyptian Museum, Cairo. JE 57711.

Both floor rails (D) and (E) are connected by a simple lap joint with a horizontal mortise and tenon added to give extra rigidity (Figure 18.3). Corner supports (G) and (F) are vertically mortised and tenoned into the floor rails and the faces which are in contact are cut with a dovetail lap joint. Bolts are used at the top, centre and bottom of the corner supports (G) and (F) to secure them together. The beetle head bolt (H) passes through a slot in both elements, a washer (J) is placed over the bolt and a tapered pin (K), is wedged through the bolt, pulling and tightening the bolt, clamping together the corner posts.

The top joints of the corner posts (F) and (G) to the top beams (C) and (N) are illustrated in Figure 18.4, which is similar to the previous jointing solution, with the exclusion of the horizontal tenon in element (C).

Both roof linen and curtaining were held by hooks and supported on roof poles (N); these were made from

circular sectioned wood and covered with a long thin sheet of gold. They were connected to the lintel (B) and beam (M) by dovetail joints (Figure 18.5) encased in copper. Again the side poles (P) were rolled in a continuous gold sheet and the bulbous terminals were covered with a separate sheet which overlapped the pole and pinned into position. The top pin and socket were covered with copper (Figure 18.6), as was the ferrule and socket of the floor rail joint (Figure 18.7).

In Plate 44 it may be seen that joints were also held together by leather ties which passed through heavy copper staples either side of a joint. These staples were fitted into the wooden elements after the gold sheet was beaten around the core, small areas of gold sheet were removed, the staple fitted, and patches of gold replaced around the fixture.



Plate 24. Bedframe pole with webbing. Manchester University Museum. 5465. *Photographic credit: Lorraine March-Killen.*



Plate 25. Bedframe pole with webbing. Manchester University Museum. 5465. *Photographic credit: Lorraine March-Killen.*

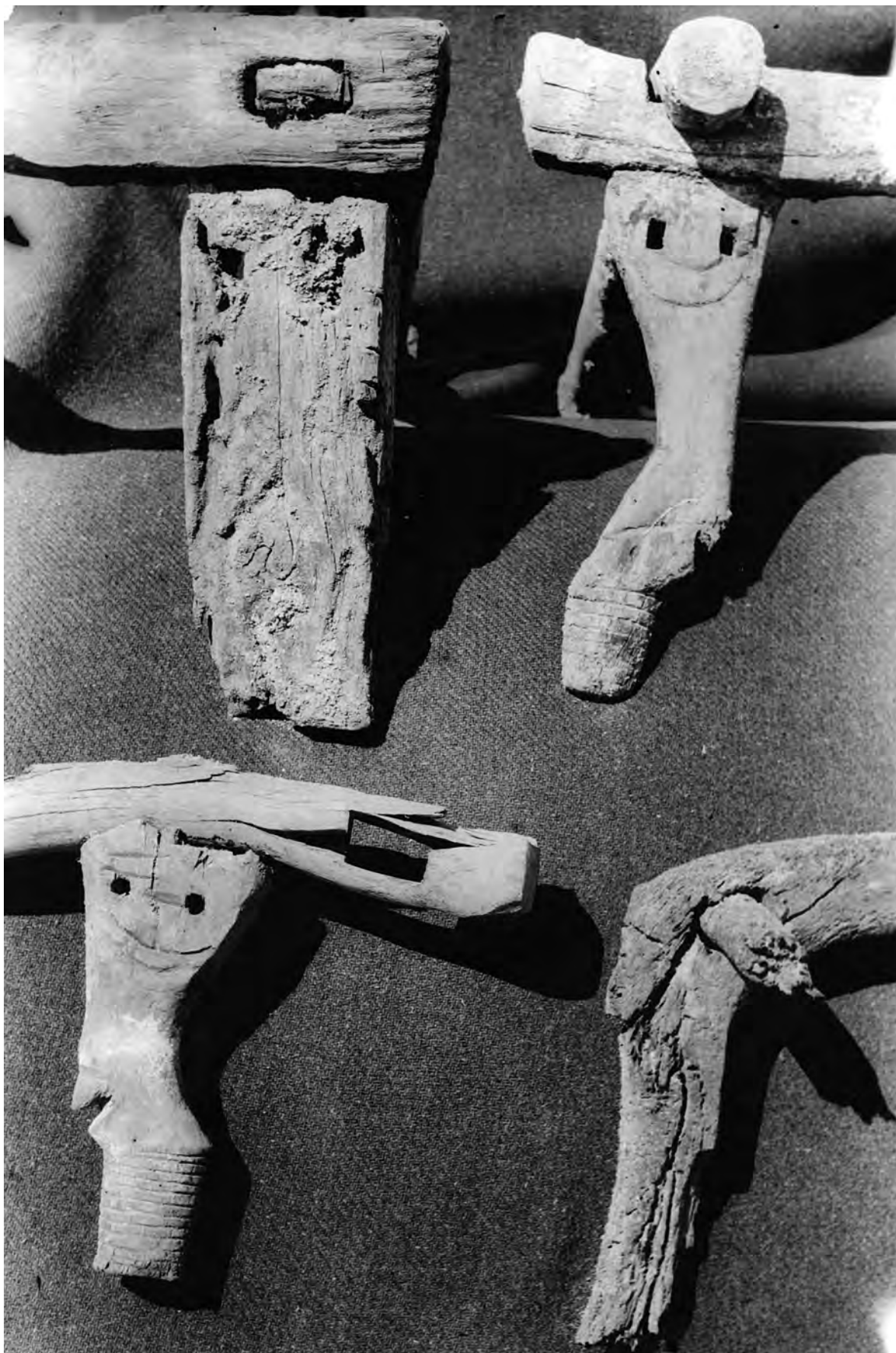


Plate 26. Bedframe types. Tarkhan. 1st Dynasty. Petrie Museum of Egyptian Archaeology. © *Petrie Museum of Egyptian Archaeology, UCL.*

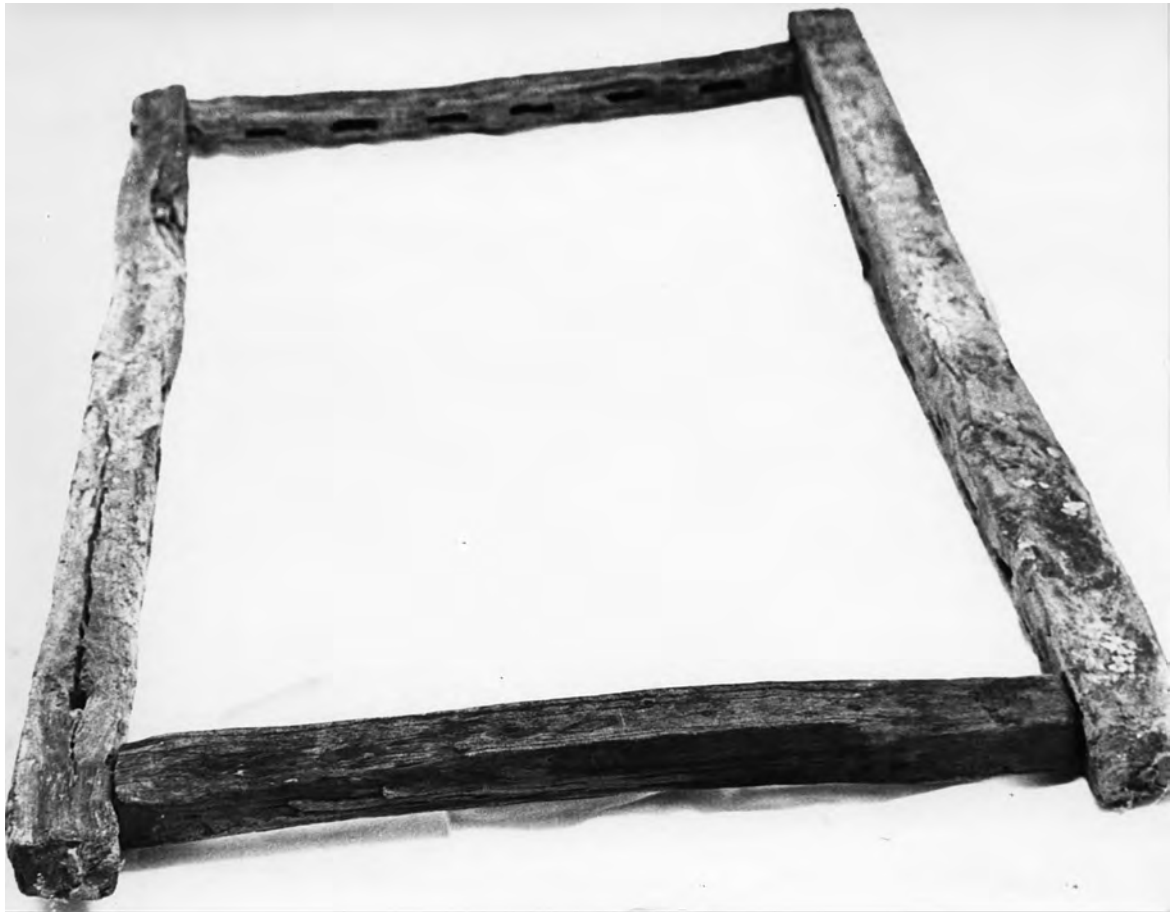


Plate 27. Bedframe. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.617. *Photographic credit: Lorraine March-Killen.*



Plate 28. Bedframe. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.617. *Photographic credit: Lorraine March-Killen.*

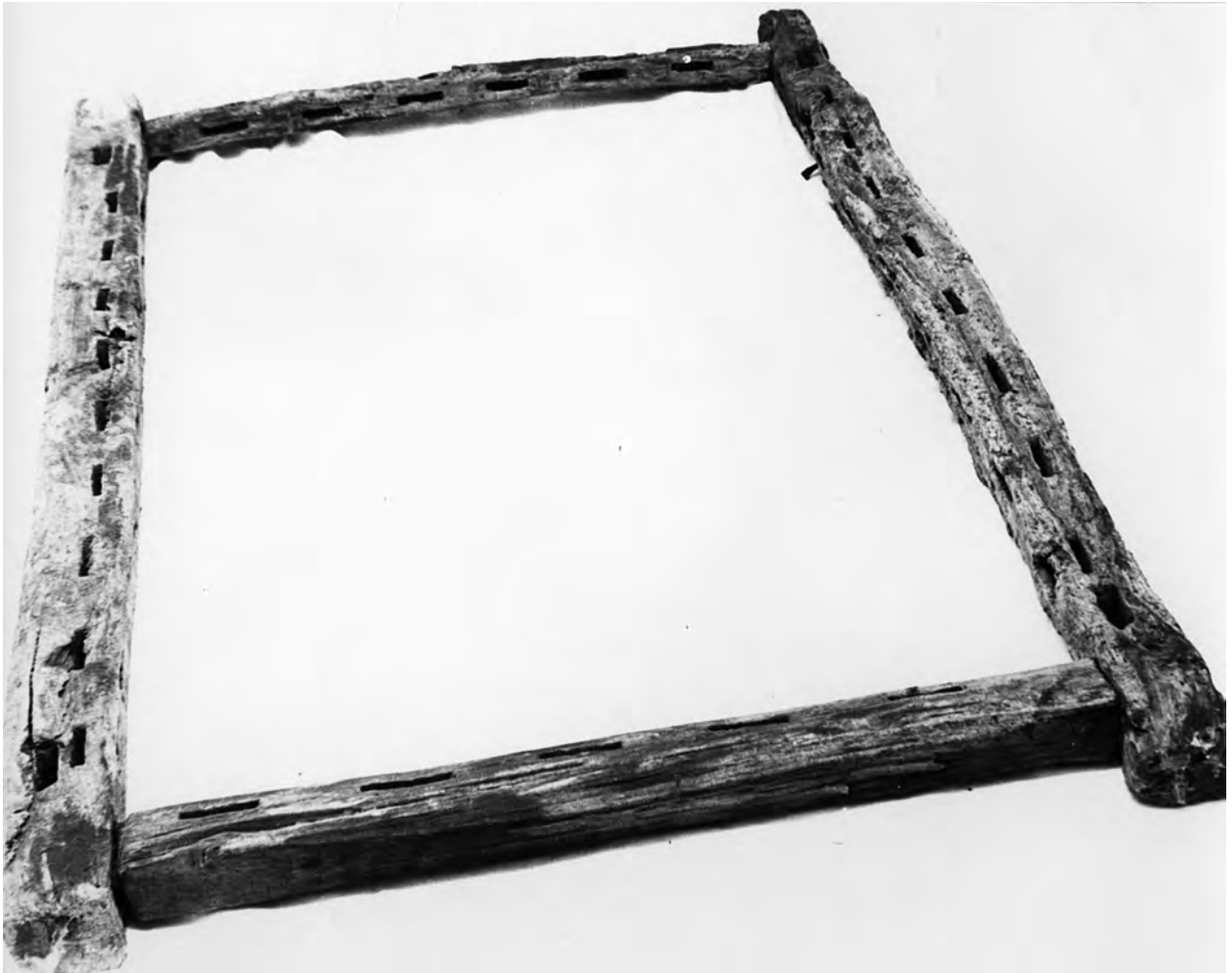


Plate 29. Bedframe. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.617. *Photographic credit: Lorraine March-Killen.*



Plate 30. Bedframe. Medelhavsmuseet, Stockholm. MM 10.232. © Medelhavsmuseet, Stockholm.

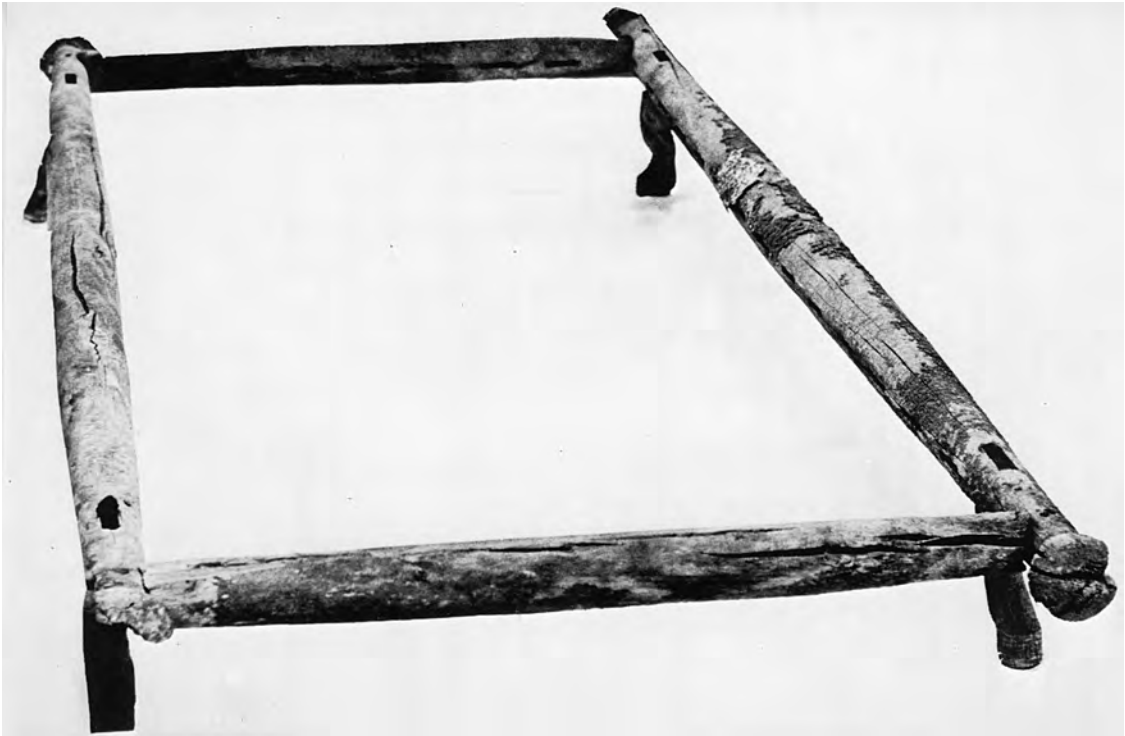


Plate 31. Bedframe. Tarkhan. 1st Dynasty. Manchester University Museum. 5429. *Photographic credit: Lorraine March-Killen.*



Plate 32. Bedframe. Tarkhan. 1st Dynasty. Manchester University Museum. 5429. *Photographic credit: Lorraine March-Killen.*

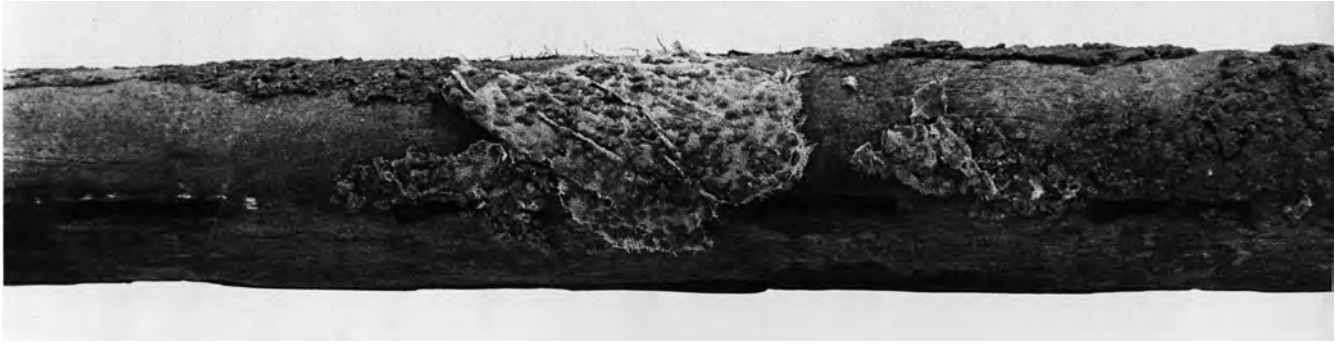


Plate 33. Bedframe. Tarkhan. 1st Dynasty. Manchester University Museum. 5429. *Photographic credit: Lorraine March-Killen.*



Plate 34. Bedframe. Tarkhan. 1st Dynasty. Manchester University Museum. 5429. *Photographic credit: Lorraine March-Killen.*



Plate 35. Bedframe. New Kingdom. Kunsthistorisches Museum, Vienna. 6128. © *KHM-Museumsverband.*



Plate 36. Bedframe (Reproduction). Original from the tomb of Queen Hetepheres I, Giza. Reproduction in the Museum of Fine Arts, Boston. 29.1858. © 2017 *Museum of Fine Arts, Boston*.



Plate 37. Model Bedframe. 12th Dynasty. Tomb of Sitrennut. Petrie Museum of Egyptian Archaeology. UC 16139. © *Petrie Museum of Egyptian Archaeology, UCL*.



Plate 38. Bedframe. New Kingdom. Deir el-Medina. Narodowe Muzeum, Warsaw. 139068 MNW. © *Narodowe Muzeum, Warsaw.*

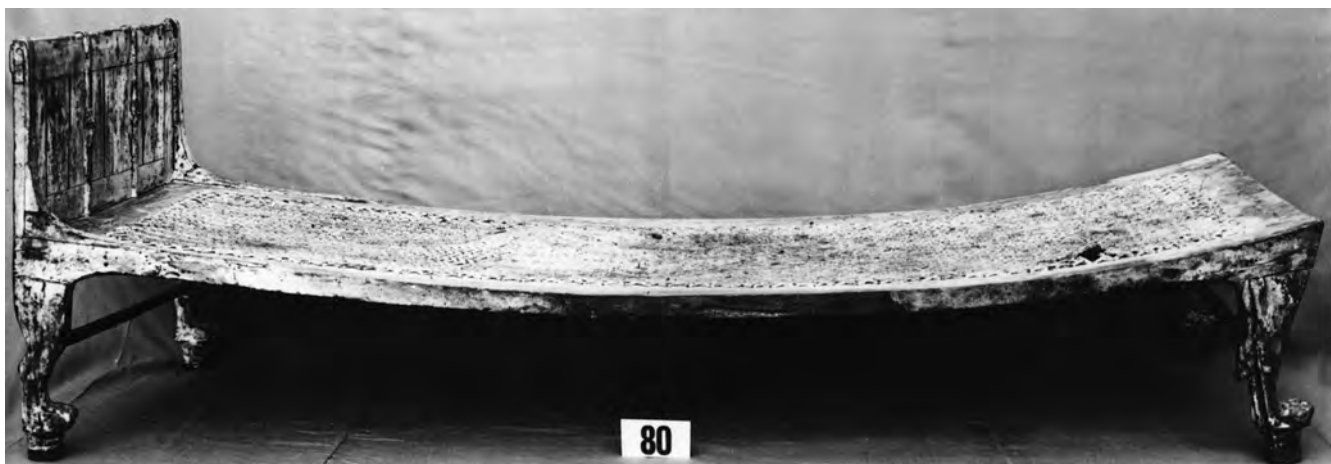


Plate 39. Bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62017, Carter No. 80. Burton Photograph p0067. © *Griffith Institute, University of Oxford.*



Plate 40. Bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62016, Carter No. 47. Burton Photograph p0063.
© Griffith Institute, University of Oxford.

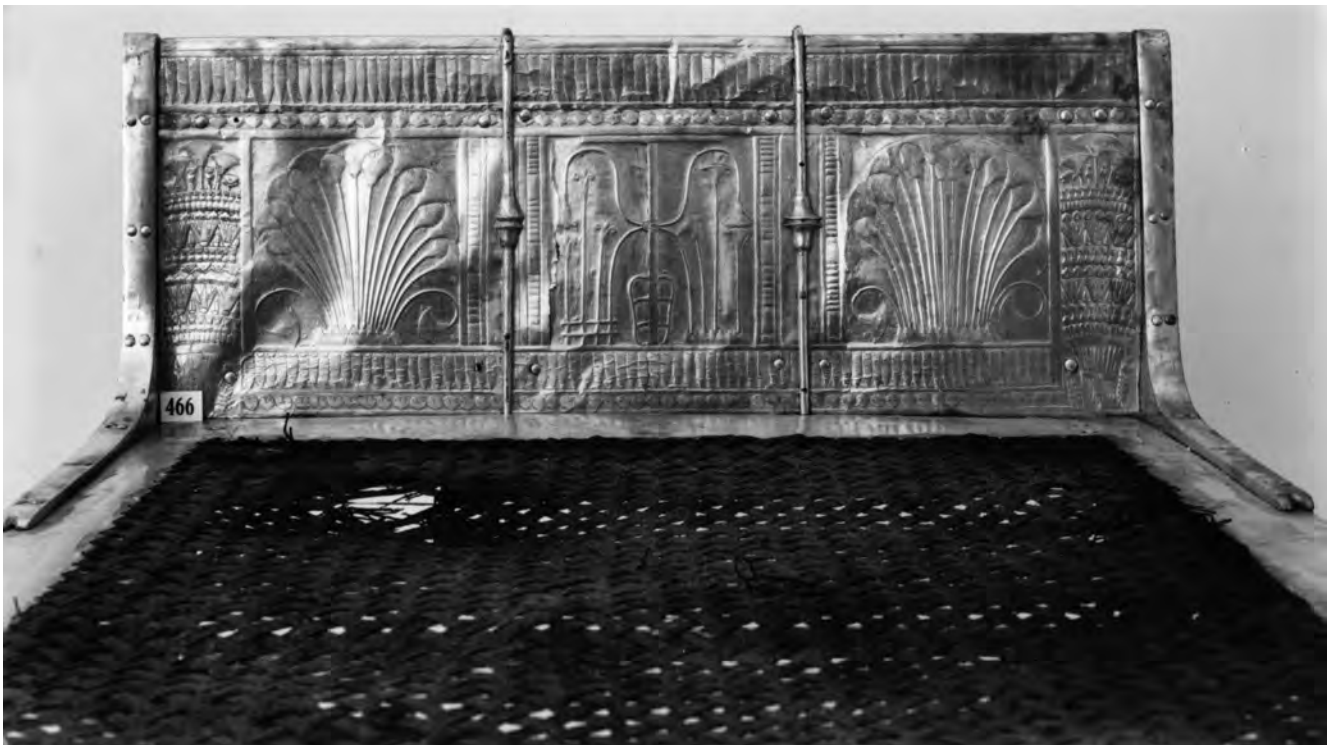


Plate 41. Bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62014, Carter No. 466. Burton Photograph p1286.
© Griffith Institute, University of Oxford.



Plate 42. Folding bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62018, Carter No. 586. Burton Photograph p1287.
© Griffith Institute, University of Oxford.

Opposite: Plate 43. Folding bedframe. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62018, Carter No. 586. Burton Photograph p1479a. © Griffith Institute, University of Oxford.

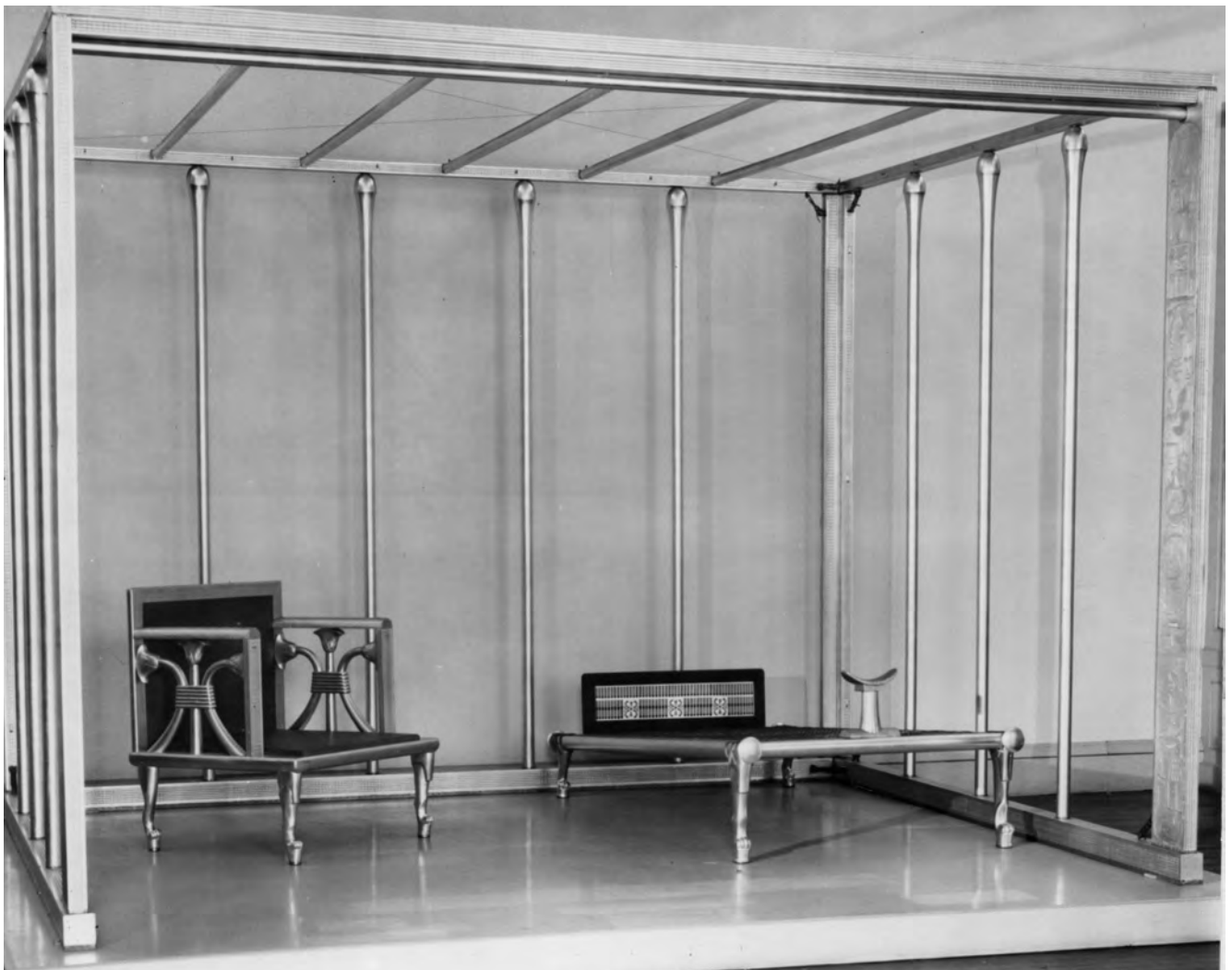


Plate 44. Bed canopy (Reproduction). Original from the tomb of Queen Hetepheres I, Giza. Reproduction in the Museum of Fine Arts, Boston. 38.873. © 2017 Museum of Fine Arts, Boston.



Chapter 4

Stools

The development of the stool is a complex field of study where different styles merge into new types and some styles overlap others by many centuries. Stools were the most common piece of furniture used in ancient Egypt, and are by far the best represented of all furniture types now preserved in public and private collections about the world. Because of these factors a straight forward analysis proves to be difficult.

Predynastic Stools

From the very earliest periods people sat on simple hewn blocks of stone or even timber trunks and such examples of furniture, from later periods, do exist. Two noteworthy examples are now preserved in the University College Museum, London. One is a unique three legged stool, UC 16532, while the other is in a plain block form, UC 16530; both stools are cut from stone. Of greater interest are simple wooden stools, but very few remain.

1. CRUDE WOODEN STOOL (PLATES 45, 46)

12th Dynasty, Kahun.

University Museum, Manchester. 261.

Length 440 mm, width 165 mm, height 270 mm.

Although this stool is dated as Middle Kingdom, it is an extremely good example of a simply designed stool being cut from a single block of oblong shaped timber. The seat edge is flat, the centre slightly dished. Each leg is of a rough circular cross section; the front and back legs run into the bottom surface of the seat. Between the back legs and front legs is a tight arch connecting them to the seat (Plate 46). The feet of this stool rest unevenly on the ground for the points of contact are just the edge of each foot. This stool, as presumably most primitive stools, has

been very roughly finished, probably from the adze only. By the beginning of the Early Dynastic Period carpenters were able to construct very basic stools designed with several elements being simply jointed together.

2. SIMPLE WOODEN STOOL (PLATE 47)

Early Dynastic Period.

Royal Ontario Museum, Toronto, Canada. 910.37.14.

Length 826 mm, width 482 mm, height 260 mm.

As with the second type of bedframe construction we examined from Tarkhan, this large wooden stool has both side and end poles connected by cross halving joints with the leg tenon passing through a mortise in the centre of the cross halving. The rails are of circular cross section being slightly tapered at the ends, the finishing is generally good and there is some degree of polishing. Around the inside of these rails are cut the characteristic webbing slots for the leather strapping; some ancient fragments of leather remain trapped tightly in these slots. The legs of this stool are plain and are slightly tapered and the edges are bevelled, showing clearly the adze marks. Only one rectangular hole at the top of each leg, which was probably cut by a mortise chisel, enables the leather thong to pass through the hole to tie the leg and rails together. It has been suggested that the long tapered ends of the side rails are in fact handles used when carrying the stool, similar to the bedframe in the Metropolitan Museum, New York (MMA 10.162). The height of this stool is similar to those bedframes of this period; it would therefore probably be used by kneeling or sitting upon in a cross legged fashion. We have wall reliefs and paintings which show stools being used in this manner (Davies 1943: pl. CV).

From the 2nd Dynasty cemetery at Helwan are many stelae which illustrate bull-legged stools, similar in

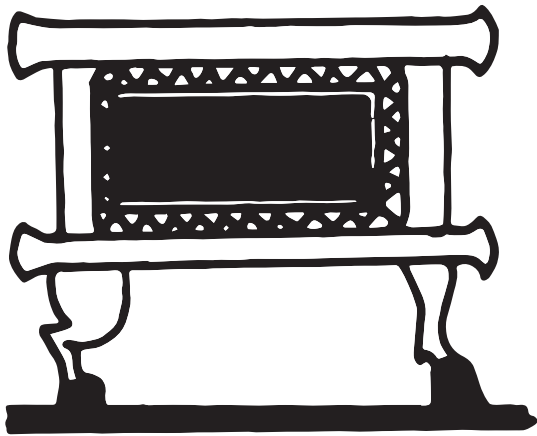


Figure 19. Stool. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).

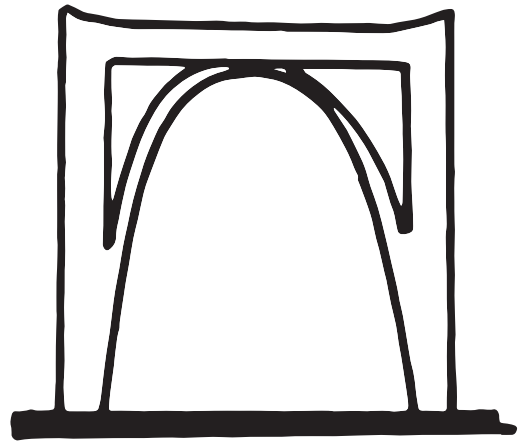


Figure 20. Stool. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty).

construction to the bedframe previously examined and preserved in the Manchester University Museum (Plates 31–34, Figure 6). The stools illustrated at Helwan are taller than bedframes, and provide a conventional seated posture (Saad 1957).

3. STOOL DIAGRAMS FROM THE TOMB OF HESYRA (FIGURES 19, 20)

3rd Dynasty, Saqqara.

Quibell 1913: pl. XVIII; Baker 1966: 34–37, fig. 27.

From the wall paintings in the tomb of Hesyra two types of stool are illustrated. The first is similar to the bull legged bedframes of the Early Dynastic Period (Figure 19). Again we see that the side poles are fashioned with papyrus flower terminals and the seat is made from a fabric or leather sheet attached to the side and cross poles by a series of leather ties. The second stool (Figure 20) shows a very simple rectangular frame, with an arched brace beneath, supporting both legs and side seat rail. This type of construction was popular during the 3rd Dynasty for we find many statues of dignitaries seated upon such stools. A good example is preserved in the British Museum (EA171), showing Ankhwa, a shipbuilder, seated upon a plain stool with arched braces (Plate 48).

4. STOOL WITH LION SHAPED LEGS (PLATE 49)

Middle Kingdom.

Museum Gustavianum, Uppsala University. B-2.

Length 435 mm, width 430 mm, height 375 mm.

By the Middle Kingdom animal legged stools had changed in design and construction. This stool, Plate 49,

shows those new design features which remained part of the canon of stool design until the Roman Period. Each element of the seat frame is cut from the wood batten, both cross rails are mortised into the ends of the side rails above the leg joint. The legs are fashioned in the form of a lion's leg, set on a supporting drum. Each leg is well carved and the claws and drums are finely modelled from the solid. The legs are also braced by four square sectioned stretchers again mortised and tenoned to the inside faces of the leg.

This stool, as with many from this period, is finished with a layer of gesso applied over the wooden frame. This technique would have been used for several reasons. Smoothing and polishing large areas of wood at this time would have been a time consuming process. Much of the wood used would have been of poor quality with many defects. Plastering the finished stool would have allowed any poor carving and defects in the wood to be hidden.

5. STOOL WITH LION SHAPED LEGS (PLATE 50)

Tomb of Kha.

Egyptian Museum, Turin. 8614.

Length 368 mm, width 368 mm, height 330 mm.

Schiaparelli 1927: 115f., fig. 96; Baker 1966: 117, fig. 158.

During the 1906 excavations by Schiaparelli at the Theban necropolis the tomb of Kha (TT 8) was discovered. Kha was an architect and “Overseer of Works” during the reigns of Amenhotep II, Thutmose IV and Amenhotep III. Kha would have been an important official and would have lived in a comfortable house at Deir el-Medina. His tomb, with his wife Meryt, contained a large collection of personal furniture and furnishings, now preserved

in the Egyptian Museum, Turin. Kha's furniture makes it possible to understand the range of furniture types available to families of some social standing. Apart from two bedframes with footboards, stools represent the most common type of furniture found in the tomb. A wide variety of style and quality are displayed; one of particular interest is the lion legged stool illustrated in Plate 50.

The seat is constructed of four curved rails with holes bored through the inside edge to retain the woven seat. The legs, which are set on drums, are mortised and tenoned into the ends of the side seat rails of this stool. Each joint is fastened with a dowel that can be seen at each end of the stool's side seat rails. Both front and back legs are tensioned by two stretchers connected at the knee position of the leg. The carving of this stool is not as fine as the previous example, but again, the entire frame was coated with gesso, some of which, particularly around the lion's paws, has chipped away showing the wood used for this stools manufacture was of poor quality.

6. SIMPLE STOOL WITH SHAPED LEGS (PLATES 51–53)

9th–12th Dynasty, Beni Hasan.
Ashmolean Museum, Oxford. AN1896-1908 E.4162.
Length 460 mm, width 460 mm, height 264 mm.

During the Middle Kingdom a new stool type emerged which was simple in design and construction, but proved to be popular, and directly influenced the design of those round legged stools and bedframes manufactured during the 18th Dynasty. These stools (Plate 51) were made from eight elements, four legs and four seat rails. The legs are tapered on all four sides to a small square-sectioned waist, which is often decorated with incised lines, about one third of the total leg height from the base. From the waist the feet flare down with a sharp curve to a large square foot which is set on a bevelled pad, best seen in Plate 52. The top of the legs (Plate 53) are rounded over and below are two square mortises cut through the leg, the top mortise runs above and across the lower mortise.

The side rails of this type of stool are rectangular in section, the long edges of which are slightly rounded to stop wear on the rush seat. The rails are cut with a through tenon with two shoulders. The resulting cross section of the tenon is square and is slightly smaller than the mortise it is designed to fit. The resulting gap between the tenon and mortise was secured with wooden wedges that would have been driven through the front of the joint. Very little in the way of finishing was used on these stools and many are left straight from the adze and chisel while a few are sand stoned smooth.

Several of these stools exist in public collections about the world. In the National Museums of Scotland, Edinburgh, are two fine stools constructed of cedar,

1909.527.29 and 1909.527.29a. Both are without seats and are dated as 17th Dynasty; they came from the Qurneh excavations. Another stool is preserved in the Metropolitan Museum of Art, New York, MMA 14.10.3, is dated as 12th to early 18th Dynasty, from el-Asasif, Thebes. This stool was a gift to the museum by the Earl of Carnarvon in 1914, and is very similar to our Ashmolean Museum example, having a rush seat, the strands being wrapped around the seat rails and woven across to form the seat.

7. SIMPLE STOOL WITH SHAPED LEGS (PLATE 54)

Early 18th Dynasty.
National Museums of Scotland, Edinburgh. 1956.110.
Length 305 mm, width 305 mm, height 127 mm.

This is by far the best preserved of all these stools. The legs are well formed and polished. At the leg's waist are three chiselled bands of decoration. The through mortise and tenon joints are neatly wedged. The joint face of the legs have been trimmed and burnished smooth, any defects which remained in the joint after cleaning were filled with wax. The seat of this stool has been restored, and is of an identical weave to the exhibit in the Metropolitan Museum of Art, New York, MMA 14.10.3 above.

8. FOLDING STOOL (PLATE 55)

Middle or New Kingdom, Rifa.
Metropolitan Museum of Art, New York. MMA 12.182.58.
Height 357 mm, width 315 mm, depth 377 mm.
Baker 1966: 137, fig. 199; Fischer 1986: 99. n.53.

This folding stool is simple in construction being designed to be light and easily stored, but rigid when used. This example, as all such stools, is constructed of two frames. Each frame has two horizontal rails connected by two vertical connecting spindles. The base rail is of a circular cross section, having two projections on the top surface which allow a graceful curve to run between the joint of the base and connecting spindle. This also is a functional design, for it permits a long tenon on the end of the connecting spindle to penetrate deeply into the base rail, this joint being secured with a dowel.

The connecting spindles of one frame pass within the other larger frame and at the crossing point two bronze pivots connect both frames. The seat rails are of a rectangular section; again, the connecting spindles are jointed here with mortises and tenons. From the pivoting point to the joint with the seat rails, the vertical spindles taper outwards, so the seat rails are supported by the two very wide shoulders of the spindles' tenon. The flexible seat is made from a leather sheet which is wrapped over the seat rails and glued.

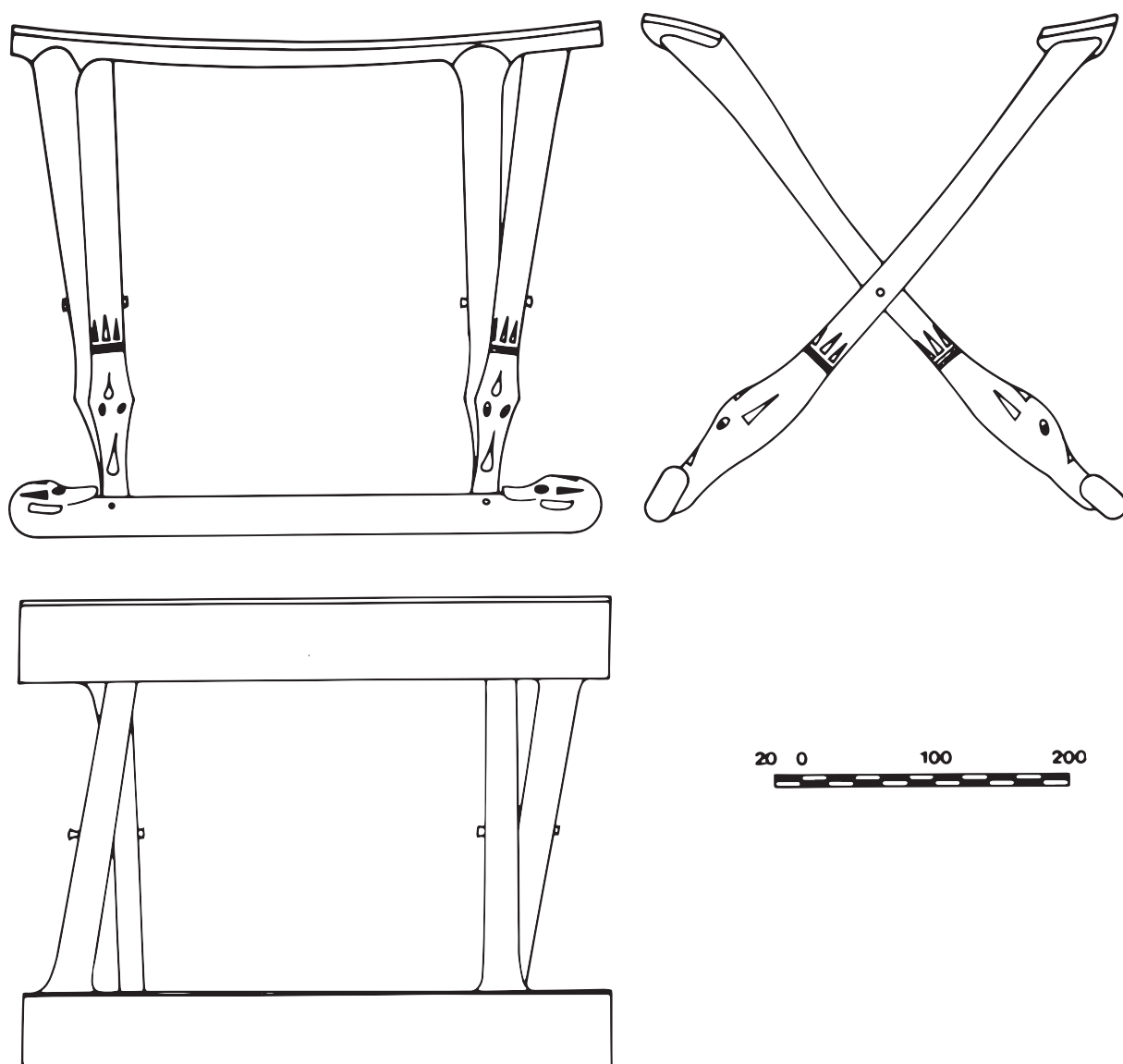


Figure 21. Folding stool. British Museum, London. EA 29284.

9. FOLDING STOOL (PLATE 56)

Middle Kingdom.

Royal Ontario Museum, Toronto, Canada. 910.37.17.

Height (upper cross arms) 470 mm, length (bottom cross arms) 508 mm, length (connecting spindles) 482 mm.

This is a very unusual type of folding stool for it has four connecting spindles in each frame, obviously designed to give the stool extra rigidity. The base rails rest on two elliptical pads cut from the cylindrical bar. Each of the pads has two projections into which pass the whole of the bottom section of the connecting spindles. The seat rails, which are hidden in Plate 56 by the modern leather seat, are elliptical in cross section. In construction this stool is very stable. The method of crossing and pinning the pairs

of connecting spindles is unique. The seat's pivots and two of the connecting spindles are modern restorations.

10. FOLDING STOOL (PLATES 57–60 AND FIGURE 21)

Tomb of Ani.

British Museum, London. EA 29284.

Height 380 mm, width 350 mm, length 450 mm.

Baker 1966: 135, figs. 197–198.

By the New Kingdom the folding stool had become a fashionable piece of furniture. We find them in many paintings and wall reliefs of this period in Theban tombs (e.g. Davies 1905: pl. XXIV; Davies 1925: pl. V; Davies 1927: pls. XV, XXVII; Davies 1930: pls. XVII, XXV;

Davies 1963: pl. XV). There seems to be a general standardisation of this design by the 18th Dynasty. The most common design feature of all these stools is that the finials on the ends of the connecting spindles and rails are carved with duck heads (Plate 58). The seat rails are made from rectangular sectioned wood and formed with a slight depressed curve. The connecting spindles have shoulders cut at an angle; the tenon on each spindle passes through a mortise in the seat rail and is wedged (Plate 59). By driving a wedge in here the carpenter would achieve a very compact and hard wearing joint, for the main forces, when the stool is in use are taken through the wedge and the vertical stop on the connecting spindle. It can also be seen that a dowel, probably for location, is driven through both elements (Plate 59).

The pivoting point of this stool is approximately at the centre; the pivot is a bronze rivet, which has been simply burnished over to stop it from twisting out (Plate 60). Above the pivot the connecting spindles were covered with leather, for small traces still remain. The seat would have also been made of leather, a rectangular piece glued at the edges to the seat rails. Remains of ancient leather may be found on both seat rails.

Below the pivot the connecting spindles are well finished and decorated with ivory inlay. Each finial represents a duck head, the bill of which grasps tightly the stool's base rail. The bill acts as the curved shoulders to a tenon which passes through a mortise in the base rail. Just below the pivot is the duck's neck which has five isosceles triangles of 1.5 mm thick ivory, inlaid into the spindle to imitate the bird's feathers. Below these are four neatly carved incised bands. From the neck to the duck's head the cross section changes from circular to elliptical, the minor axis of which is the same diameter as found at the neck, and the major axis is greater. The head is inlaid with three ivory feathers, below which are the duck's eyes which are of an annular design. The outer circle is of ivory inlay, while the inner is of darker wood, possibly African Blackwood.

The base rail is cut from the solid and is worked to a circular cross section, apart from the ends. Here the carpenter has beautifully completed the piece by gracefully rolling the neck of the duck so the head points towards the joint of the connecting spindle. Again this head is decorated with ivory feathers, many of which are missing, and the eyes are similar to that found on the heads of the connecting spindle.

11. FOLDING STOOL (PLATE 61)

18th or 19th Dynasty.

Royal Ontario Museum, Toronto, Canada. 914.2.1.

Total length of sides 610 mm, width 632 mm, height 430 mm.

This folding stool is possibly a little later than the British Museum example we have previously examined. But again it shows the general style for this type of stool, having well-formed duck head finials inlaid with reasonably thick ivory. The wood used in the construction of this piece is African Blackwood which would explain the high standard of preservation. Both connecting spindles, bronze pivots and washers are original unlike those found on the previous example. The seat construction of this stool is interesting as each seat rail is connected to its spindles by a bridle joint fastened by a single dowel. Along the centre of each seat rail are drilled nineteen holes, 20 mm apart, to receive the fibre seat which is now lost.

12. FOLDING STOOL (PLATES 62, 63)

18th Dynasty.

University Museum, Manchester. 4229.

Height 260 mm, width 250 mm.

Examining fragmented furniture often leads to certain discoveries of how the product was constructed. This folding stool is such an example. In general terms it is a poor piece of carpentry and applied decoration, having no feathers of ivory inlay. However, it is interesting because we are able to see the long tongue tenon which was employed on folding stools of this type. It will be noticed that the tenon springs from the heart of the wood and is in itself of good sound dimensions, and could easily withstand the forces placed upon it. Above this is the eye (Plate 63) which is not of inlaid ivory, but a solid dowel of ivory, which passes completely through the duck's head, which is now badly chipped.

At the crossing point of the connecting spindles is set a bronze rivet with a combined washer. Washers were used to stop the wear caused by the rough burnished edges of the plain rivet.

13. IMITATION FOLDING STOOL (PLATE 64)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62035. Carter No. 83.

Height 342 mm, length 470 mm, width 317 mm.

Carter 1923: 218, pl. LXXIVB; Desroches-Noblecourt 1963: 199, pl. 117; Baker 1966: 87, fig. 102; Eaton-Krauss 2008: 116–119, figs. 24–7, pls. LI–LIII.

There were three folding stools found in the tomb of Tutankhamun, each being very similar in construction. In general they are similar in construction to other 18th Dynasty folding stools, only more ornate, combining in them not only ivory and African Blackwood but also gold foil. Two of these stools have leather seats, JE 62036 and JE 62037 (Eaton-Krauss 2008: 112–116, pls. XLVIII–L), one of black the other red. As with the great majority

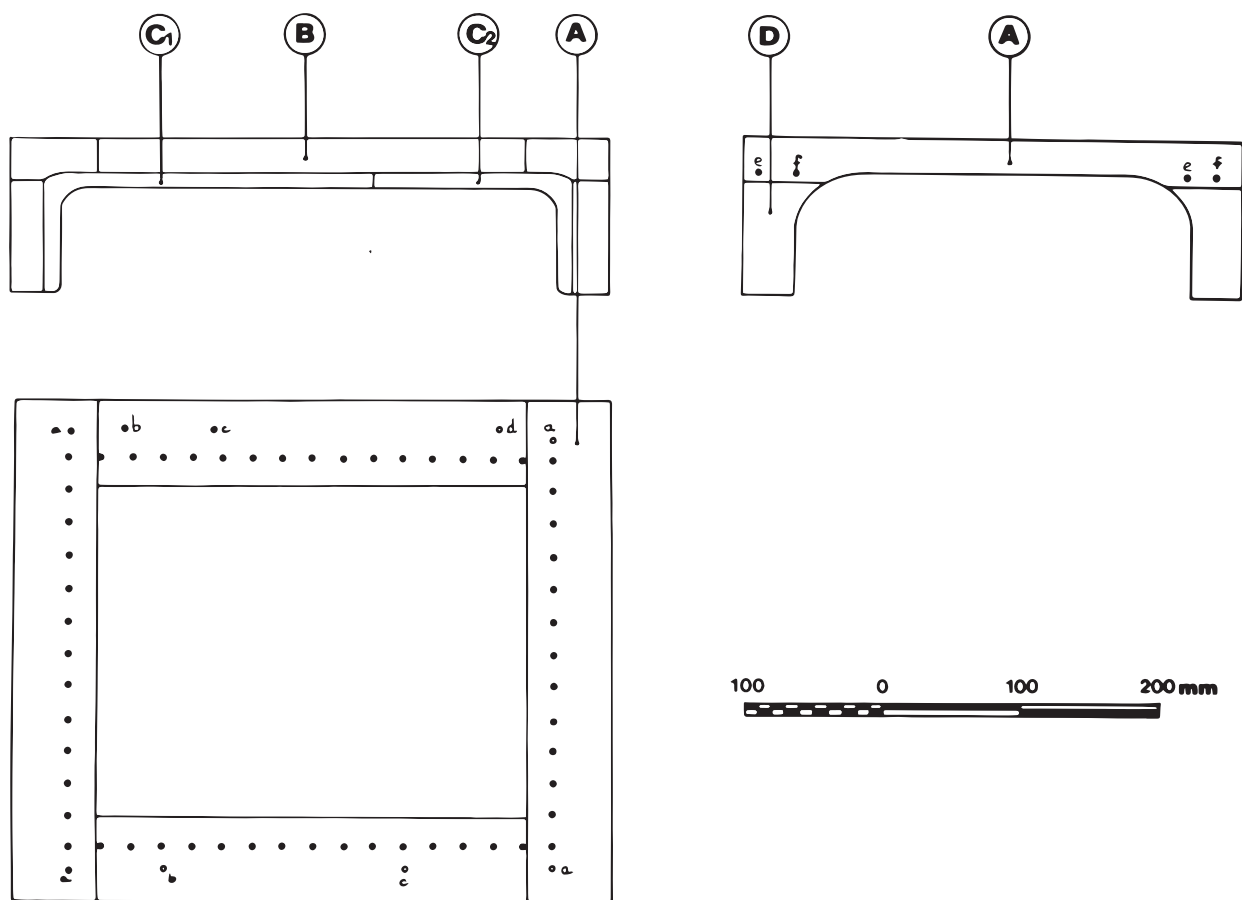


Figure 22. Low stool. British Museum, London. EA 46705.

of these stools the leather has decayed and only a few fragments remain adhering to the side rails.

The third stool (Plate 64) initially appears to have a perfect animal skin seat. This is not the case, for this stool cannot be folded, because the seat is rigid, being made from slats of bent wood and inlaid with ivory so imitating the markings normally found on an animal skin. A centre strip of red coloured wood is placed on the seat to represent the spine of the animal. As an extension at one end a further piece of wood has been included, and cut out like a tail, and hangs from the spine. A great many of these stools are illustrated in the Theban tombs, and, as with this example, they have animal skin or imitation skin seats.

14. LOW STOOL (PLATES 65, 66 AND FIGURE 22)

18th Dynasty.

British Museum, London. EA 46705.

Length 430 mm, width 360 mm, height 110 mm.

Baker 1966: 135, fig.194.

This particular stool is in good preservation; both the wood and rush webbing was originally gessoed, but much

of this has fallen away. These stools could not have been used to sit upon in a conventional manner. It is unlikely, due to the webbed seat, that they were used as a footstool. Therefore they were more likely used by either squatting or kneeling upon them. Otherwise they may perhaps have been used as a child's stool.

From Figure 22 we may see that the side rails (A) are cut in an "L" section; along the inner edges are thirteen holes, 20 mm from the inner edge and 24 mm apart. On the inside faces at each end of this element are cut a stub mortise to take the tenon on the end of rail (B), which is a rectangular member. Through the inner edge of this are drilled 15 holes, 20 mm from the inner edge and 24 mm apart. The joint of rails (A) and (B) is held by a single dowel (a), this also holds with dowels (b), (c), (d), a double elbow brace made of two parts (C1) and (C2) to the underside of rail (B) and to the inside of the legs (D).

A mortise and tenon holds the legs (D) to the rails (A) and this is held by two dowels (e) and (f). Through the holes in the inner edge of the seat rails is woven a simple double braid rush webbing which is in very fine condition, the ends of all the strands are carefully knotted below the holes and hidden from sight (Plate 66).

15. LOW STOOL (PLATE 67)

Date uncertain.

Medelhavsmuseet, Stockholm. MM 19.671.

Length 347 mm, width 296 mm, height 70 mm.

This stool is smaller than the British Museum example EA 46705. The end rails and legs are cut from the same piece of wood. As with the previous stool the side rails are jointed to the end rails by mortises and tenons, but are not secured by dowels. This is unusual, for the double braid webbing acts as the only way to tie both elements together. When the webbing decays, the end rails become loose from the side rails.

16. THREE LEGGED STOOL (PLATE 68)

1st Dynasty, Tarkhan, tomb 415.

University College, London. UC 17173.

Height 305 mm, width 610 mm.

The introduction of the three legged stool made from wooden elements seems to have occurred during the latter part of the Middle Kingdom. A very fine limestone stool with three legs and dating from the Middle Kingdom is now preserved in the Petrie Museum of University College, London. UC 16532. Also in that collection is this stool with three legs which was discovered at Tarkhan in grave 415 on top of a coffin and has been dated as 1st Dynasty. The stool, which had been partly eaten by white ants and was also charred in the department fire in March 1956, has one leg now partly missing. The stool has been cut from a conveniently branching tree or even a tree root. This early example was no doubt commonly manufactured, and strongly influenced the design of three legged stools manufactured in the Middle and New Kingdoms.

17. THREE LEGGED STOOL WITH DISHED SEAT (PLATE 69)

18th Dynasty.

British Museum, London. EA 2481.

Length 285 mm, width 360 mm, height 328 mm.

By the New Kingdom craftsmen were experiencing a greater affluence; previously they had squatted, like most of the population, on the ground. This is dramatically illustrated in the beautiful, 11th Dynasty (2060 B.C.) model of a carpenter's shop discovered in the tomb of Meketra, TT 280, Egyptian Museum, Cairo, JE 46722, (Winlock 1955). However, by the New Kingdom there are many paintings and reliefs of carpenters sitting on different types of stool.

An outstanding collection of workmen's stools was found at the New Kingdom village cemetery at Deir el-Medina (Bruyère 1934: 48, fig. 21). The great proportion

of those stools discovered were of a simple rectangular construction with rush and reed seats. (Such stools are examined in the next section of this chapter). Two three-legged stools were discovered at Deir el-Medina, one being very crude, with a thick flat seat, with three slightly curved legs passing through mortises in the seat. Each joint was wedged to make it secure, and when weight was applied to the seat the angle of the mortises and tenons through the seat would add to the rigidity of the stool. This construction is typical of all three legged stools. The second stool discovered in the cemetery at Deir el-Medina is similar to this example preserved in the British Museum.

This three legged stool (Plate 69) has a solid seat carved from a plank of coarse grain timber which has many knots in it. The front edge is straight while the back is fashioned in a rounded form. The seat, which is deeply dishd, has three square mortise holes chopped through it into which pass the tenons of the legs. The tenons are heavily wedged and one of the holes shows traces of ancient glue. Underneath the curved seat are three pads which project from the mortises, to securely hold the shoulders of the tenons. The legs, which are curved, may have been bent to shape, as it is possible to distinguish parts of the grain flowing around the curve. From the tenon the legs flare downwards to large round pads on which the stool sits.

18. THREE LEGGED STOOL (PLATE 70)

18th or 19th Dynasty.

National Museums of Scotland, Edinburgh. 1956.107.

Height 223 mm, width 343 mm.

The seat of this stool is of semi-circular shape and is very thick; the top surface is slightly dishd. Underneath are solid wooden pads into which the legs are jointed at an angle. The thick section here eliminates the top of the leg tenon coming through the upper surface of the seat. The seat is of poor quality wood; at the centre maybe seen a heart shake with at least one radial shake, exposed by the wearing of the gesso. The legs, which are of better quality wood, are not gessoed, but have several face knots in the bevelled flared members. One leg shows particularly poor adze work where the craftsman has undercut the leg when roughing it to shape.

19. ROYAL THREE LEGGED STOOL (PLATE 71)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62043. Carter No. 412.

Height 290 mm, width 431 mm.

Carter 1933: 114, pl. LXVIII A; Baker 1966: 90, fig. 105 a, b, c; Eaton-Krauss 2008: 122–125, pls. LXI–LXIII.

This is an extremely fine stool. The seat is pierced and finely carved on both faces to represent two lions bound

head to tail by their feet. The edging to the seat is of a spiral pattern in a wave formation. Beneath the slightly dished seat are three projections into which pass the tenons of the legs. One of these tenons may be seen when looking at the top surface of the seat. The legs are held in place by an openwork brace, it cannot be established whether the members for this element are cut or formed by bending into this shape, due to the gesso which was applied to the stool. Between the brace and the seat is a characteristic openwork motif representing the union of Upper and Lower Egypt. The legs of this stool are finely moulded, in a canine or feline form; carved in the round including under the paws, which are in contact with the ground.

20. STOOL (PLATE 72)

New Kingdom.

National Museum of Scotland. Edinburgh. 1956.111.
Length 356 mm, width 356 mm, height 305 mm.

The second type of stool discovered at the New Kingdom workmen's cemetery at Deir el-Medina is similar to this example, and is representative of a type of quality, design and construction seen in bedframes (e.g. National Museum, Warsaw, 139068 MNW), and other furniture from the New Kingdom which originates from Deir el-Medina. This stool has four straight legs, the tops are rounded and the feet squared off. The seat rails are connected to each leg by a through mortise and tenon previously seen in those stools with shaped legs from Beni Hasan 569 (Ashmolean Museum, Oxford AN1896-1908 E. 4162), where the tenon on one seat rail passes above or below the other seat rail tenon and at right angles to it. Below the seat frame are stretchers, connected to the legs by barefaced mortises and tenons. The wood used in the manufacture of these stools seems to be reasonably good apart from some edge knots (one may be seen on the front stretcher). The seat is also typical of this type of stool, being woven of reed and rush fibre and wrapped tightly about the seat rails.

21. STOOL WITH CONCAVE SEAT (PLATE 73)

New Kingdom.

Nardowe Muzeum, Warsaw. 143344 MNW (on loan from the Louvre Museum, Paris. E.3858).
Length 380 mm, width 370mm, height 300 mm.

Undoubtedly this stool design would have been influenced by the previous example. It has four straight legs, squared off at the feet and rounded at the top. The typical above and below mortise and tenon joints of the seat rails to legs are found in this piece. Also typical are the stretchers below the seat, jointed to the legs by barefaced mortises and tenons. The mortise for one of these joints is clearly shown on the back leg. The seat of this stool is constructed

of curved boards, the seat rails are wider than the legs and not only jointed to the legs but to each other by simple plain mitres. Three slats form the seat and are jointed to the inside of the seat rails.

This type of design is part of the developmental change towards the introduction of the lattice stool, which was used widely in New Kingdom Egypt.

Lattice Stools

By far the most popular and widely used stool in Egypt during the New Kingdom was the lattice stool. The development of this type of construction seems to have been made during the New Kingdom. This stool was used throughout Egyptian society from the Pharaoh and his court through to the craftsman and artisan class. A notable collection of such stools may be found in wall paintings from important tombs at Thebes (Davies 1907: pls. XV, XVIII; Davies 1923: pls. V, VIII; Davies 1925: pls. V, XI; Davies 1930: pl. LXI; Davies 1933: pl. XXXVIII; Davies 1933A: pls. XVIII, XXV, XLV; Davies 1941: pls. VIII, XXVII; Davies 1943: pls. XXXVI, LI; Davies 1963: pls. II, VI).

This style of furniture developed naturally from the simple straight-legged stools used by craftsmen of the Second Intermediate Period and the early New Kingdom. The lattice stool is made from four straight legs of square-sectioned wood with stretchers holding the bottom of the legs firm, while the seat rails are mortised and tenoned into the top of the legs. Between the stretchers and the seat rails is a lattice of braces on all four sides.

It has been suggested that the lattices give extra support to furniture, whether they be stools, chairs or vase stands. They are important to the overall structure but not fundamental to the load bearing capabilities of this type of furniture, on some pieces the lattices are simply butt jointed to their opposing member and not even glued, just wedged. This may indicate that these pieces of furniture were designed as tomb furniture and not intended for domestic use.

22. LATTICE STOOL (PLATE 74)

18th Dynasty.

Brooklyn Museum, New York. 37.45E.

Provenance unknown.

Length 267 mm, width 229 mm, height 243 mm.

This is a very small stool and similar to stools used by craftsmen of the age. The legs are cut from good quality wood 17 mm square. The top of the legs are slightly wider (25 mm) and are curved to run into the main body of the leg, and the seat rail. The leg and seat rail joint is a simple mortise and tenon, but the stretcher (15 mm × 7 mm) and leg joint is formed by a bareface mortise and tenon. This type of joint is found on modern as well as

ancient furniture where the rail is thinner than the vertical member. The seat rails are slightly dished, resulting in a double cove seat, a common design feature on these stools. The thickness of the seat rails vary from 14 mm at their centre to 35 mm at the ends where the mortise for the leg joint is housed. Seven panels of shaped wood form the seat; the two outer panels also act as the side rails and are 46 mm wide, as against 31 mm for the five inner panels, with a gap of approximately 6 mm between each member.

Beneath the side rails and enclosed by the legs and stretchers is the lattice bracing. The uprights are 145 mm in length, and the diagonal struts are 160 mm in length. Each is cut from good quality wood 7.5 mm x 5 mm in section. They are then fully jointed in below the seat and into the stretchers.

23. LATTICE STOOL (PLATE 75)

Date uncertain.

Medelhavsmuseet, Stockholm. MM 19.668.

Length 495 mm, width 445 mm, height 465 mm.

This stool is almost twice the size of the previous example but it still shows the basic construction of this type of stool. The major difference is that the seat is woven and not panelled. Holes are drilled through the seat frame to hold the string webbing.

24. LATTICE STOOLS (PLATE 76)

Tomb of Kha.

Egyptian Museum, Turin, 8512 and 8511.

Length 419 mm, width 330 mm (both stools).

Baker 1966: 116, fig. 154 a.b.

Four very fine lattice stools (two only shown here) were discovered in Kha's tomb at Thebes. They are, as we have become to expect, fine membered, clean lined, precise jointed with single and double cove, string or panelled seat stools. They were originally lightly gessoed but much of this has fallen away exposing the wooden frame.

These examples show another common bracing technique employed by the ancient carpenter, who was by this time extremely proficient in his trade, being able to make two identical stools. The single upright strut (between the seat rail and stretcher) is larger in section than the two diagonal struts. These diagonal members are butt jointed against the corner of the stretcher and leg while at the other end against the vertical strut and the seat rail. Naturally the stretcher and leg joint has to be secured with a dowel (not done on the previous two examples) as is the vertical strut and seat rail joint, for the direction of forces in the diagonal struts are taken directly through both joints to the floor.

25. LATTICE STOOL (PLATE 77)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62041. Carter No. 81.

Height 305 mm, width 275 mm, depth 320 mm.

Carter 1923: 115, pl. LXXIII A; Aldred 1954: 685, 701, pl. 25B; Baker 1966: 86–87, fig. 101; Wanscher 1968: 12–13, 49 (illus.); Svarth 1998: 96, (illus., reproducing Wanscher's drawing); Eaton-Krauss 2008: 106–109, fig. 23, pl. XLV.

Two lattice stools were discovered in the tomb of Tutankhamun. One was a simple lattice stool with a double cove panelled seat that had been lightly gessoed, JE 62040, (Eaton-Krauss 2008: 109–110, pl. XLVI). The other stool (Plate 77) is of better quality using expensive wood in its construction. The frame of this stool is made from a timber such as cedar; the seat is of a double cove design and is constructed of five panels. Three of these panels are made from African Blackwood the remaining two are of ivory. Between the panels are bands of both materials, used here, and on the backs of chairs, as a decorative stringing. The button shaped dowels, that are used to secure the joints of this frame, have a core of African Blackwood which is capped with ivory.

26. STOOL (PLATE 78)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62038. Carter No. 467.

Height 450 mm, width 450 mm, depth 431 mm.

Carter 1933: 114 and 219, pl. LXVIII B; Baker 1966: 87, pl. VIII (colour); Svarth 1998: 92 (illus.); Eaton-Krauss 2008: 104–106, pls. XLIII–XLIV.

This stool is of exceptional quality, the legs, which are carved in the feline form and lightly gessoed, are set upon drums which are clad in copper and shod with thick bronze plate. The seat, which is also gessoed, is constructed of curved panels to form a double cove; the joints which connect the outer panel are mortised and tenoned together and are pinned with gold capped dowels, as are the leg to seat joints. Beneath the seat is the decorative flower arrangement which represents the union of Upper and Lower Egypt. This has been finely carved and with the stretchers, has been completely covered in thin gold sheet over the wooden cores.

Round legged Stools

From the important private tombs at Thebes are displayed a great number of what are commonly known as round legged stools. It is during the New Kingdom and in particular the 18th Dynasty that we see the development of this new type of stool. Without much doubt they developed in constructional form from stools with waist

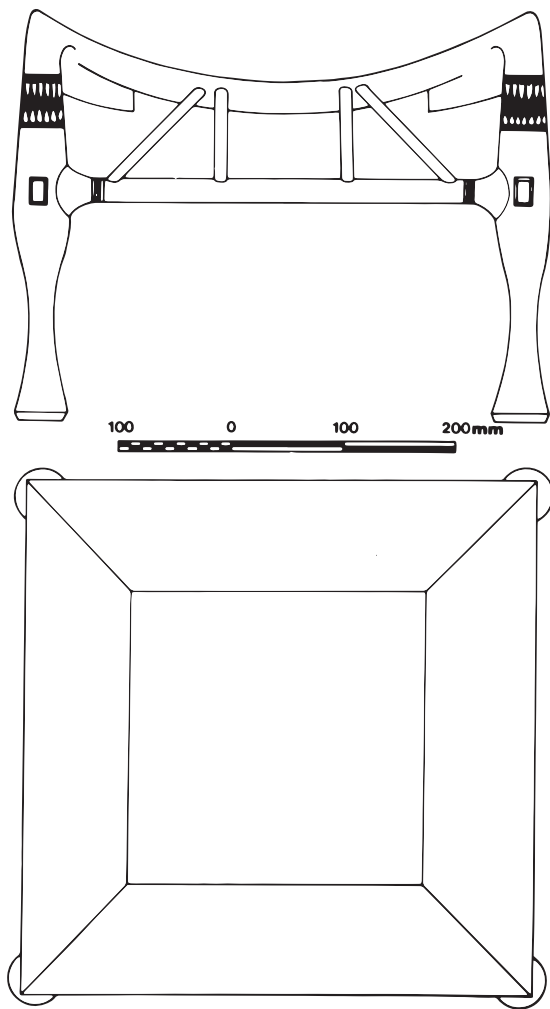


Figure 23. Round legged stool. British Museum, London. EA 2472.

shaped legs, earlier discussed, which originated from the Middle Kingdom. (New Kingdom representations. Davies 1925: pls. V, XVIII; Davies 1927: pl. XXXVI; Davies 1930: pl. XXXV; Davies 1933A: pls. XIX, XXVII; Davies 1943: pl. LIV).

One of the greatest problems that have confronted technologists over the last two centuries is how these round legs were manufactured. There are two schools of thought, whether the legs were turned on a primitive lathe or hand carved then filed before being finally sandstoned.

27. ROUND STOOL LEG (PLATES 79–81)

18th Dynasty.

University Museum, Manchester. 542.

Height 330 mm, diameter 50 mm.

This leg is typical of the period. (The photograph on Plate 79 shows the leg rotated through one revolution). The

general form of this leg is that of a cylinder, part of which has a narrow waist, but the foot retains the diameter of the main body of the leg. In the main body are two rectangular mortise holes, while the leg's waist is decorated with many incised bands. The top of this leg has squared shoulders from which an unusual spike of wood projects.

On a close examination of this leg there are no visible cutting marks which could be positively identified as being made from a stationary cutter as the wood was spun in front of it. The shoulder of this leg can clearly be seen to be higher on one side than the other. This would not be expected if the shoulder had been faced on a lathe. During the Roman Period legs of stools which can be positively identified as being turned had perfectly square shoulders. Even the method of parting to produce squared shoulders on the main body of the leg was used widely as a decorative effect.

The spike, which acts as part of the joint to the seat, and extends from the shoulders, is not rounded or turned as many Roman examples are, but is hand cut with a chisel (Plate 80). If this leg had been turned it would seem natural that this spike would have been employed as a pivot. If so, part of the point would have been burnt during turning, due to friction. However, there is no trace of burnt fibre wood on any part of the spike. Also on the underside of the foot there is no pivot hole, which would be expected if this leg had been turned.

The leg's waist gives the greatest indication of turning, numerous fine lines are incised in bands about this area. As can be seen from Plate 81, they do in fact run in perfect bands around the leg. The rounding of wooden elements by hand is not a difficult process and was well practised by carpenters of the Early Dynastic Period, but with the introduction of the narrow waist on these legs the technique of cutting them seems to become more difficult. In Plate 79 the waist of this leg seems to be perfectly symmetrical; however, cutting a symmetrical curve by hand is difficult. Four angles of the leg (Plate 79) show that this has been achieved well, but the photograph on far left hand side of the set shows a distinct lump, better seen in Plate 81. This bulge on only part of the foot illustrates that this area could not have been turned, even though the incised bands would try to disprove this.

How could such fine bands be cut onto these legs? The Egyptian craftsman, of that age, had the basic knowledge concerning the principles of turning materials. Techniques for cutting the centre from stone vessels and turning clay pots were universally used, as was the bowdrill for cutting holes in wood and other materials. It has been suggested that lines commonly found on round legs were made by the cord of a bowdrill which had been impregnated with an abrasive powder. This would seem to be a feasible solution; the spike on the leg could have been placed in a hole to stop the leg from rotating as the bow cord of the bow was sawn around the waist.

28. FINE ROUND LEGGED STOOL. (PLATES 82, 83, AND FIGURE 23)

18th Dynasty.

British Museum, London. EA 2472.

Length 460 mm, width 460 mm, height 360 mm.

Baker 1966: 135, fig. 193.

This is a very fine round legged stool; the legs are of a cylindrical form, with a series of uneven and irregular deeply incised bands in the waist. Around the top of the leg a section of wood has been removed by sawing and filing or chiselling (Plate 83). Into this area has been inlaid an ivory design; the top band represents a series of thin lily petals pointing downwards, the lower is of teardrop shaped inlay. The inlays are approximately 2 mm in thickness. Enclosing the decoration are three bands of thinner ivory inlay, 0.5 mm in thickness.

The seat is of a double cove form, the joints of the leg to the seat rails are heavily plastered (Plate 83) as are the seat rails. Originally with many of these stools a leather seat would have been glued across and under the seat frame, so hiding the plastered joint of the leg. On the seat rails only a few small traces of brittle and cracked leather remain.

The stretchers beneath the seat are mortised and tenoned into the legs. The tenon does not fully come through the leg, but if it did a small plaque of ivory enclosed in an ivory frame would cover the mortise. On one joint the small ivory plaque with one side of its frame is missing, Plate 83. The inside face of the stretcher and leg joint is carefully disguised by an ivory ferrule, in the shape of a papyrus flower, which fits snugly around the inside face of the leg. Behind this are four bands of inlaid ivory varying in width. The braces, which are only for a decorative effect, are made of circular rods of ivory which are mortised and tenoned into the stretcher but unite in a single hole below the seat rail and are covered with plaster.

29. ROUND LEGGED STOOL. (PLATE 84)

17th or 18th Dynasty, Drah abu'l Naga, Thebes.

Metropolitan Museum of Art, New York. MMA 14.10.4.

Height 392 mm, width 405 mm, length 415 mm.

Baker 1966: 138, fig. 207 (showing stool without restored seat); Killen 1997: 14–17, figs. 4–8, table 1.

This elegant stool has fine circular legs whose waists are decorated with groups of four carved bands. In each leg is a deep groove indicative of turning and the circular sectioned stretchers of this stool are mortised and tenoned into the legs. The seat rails are also mortised and tenoned to the legs, and a leather sheet was placed across the seat and glued to both the upper and lower surfaces of the seat rails. The leg to seat rail joint is hidden by pulling this leather sheet around the top of the leg.

Since the publication of the first edition of this volume in 1980, this stool has undergone an extensive research programme to establish the wood, date, techniques and technology used in its manufacture (Killen 1997: 14–18, figs. 4–9). The wood has been identified as being Sidder (*Zizyphus spina-christi*) and radio carbon dating (C14) provides a date that the timber from which this stool was manufactured was felled between 1880 B.C. and 1510 B.C. with a 95.4% confidence. Therefore, with the 1510 B.C. date the stool could have been manufactured during the early part of the 18th Dynasty.

Measurements of each leg were taken across both the major and minor axes consistently down each face of every leg (Killen 1997: table 1). In cross section these legs display a surprising circularity considering the age of the wood. These cross sectional results could be regarded as supporting the turning hypothesis. The leg was also photographed using 4x magnification ring flash imaging. Both full face and profile images show marks consistent to lathe turning marks clearly visible in the grooves of these legs, they are thin, sharp, parallel incisions on the surface of the grooved part of each leg (Killen 1997: figs. 9 and 10). These marks are 3 mm wide being consistent with a saw or thin chisel being eased into the spinning leg to clean up the surface of the groove. If the leg was stationary or being rotated slowly these marks would have been tangential to the groove's surface.

Therefore, we have to accept that Egyptian carpenters were experimenting with different ways of wasting wood including turning, even in its most primitive form. Additional research that discusses the development of turning in ancient Egypt is published in a paper for the "Experiment and Experience" symposium held at Swansea University, May 2010 (Killen 2015: 91–111).



Plate 45. Crude wooden stool.
Kahun. 12th Dynasty. Manchester
University Museum. 261.
Photographic credit:
Lorraine March-Killen.

Plate 46. Crude wooden stool.
Kahun. 12th Dynasty. Manchester
University Museum. 261.
Photographic credit:
Lorraine March-Killen.





Plate 47. Simple wooden stool. Early Dynastic Period. Royal Ontario Museum, Toronto. 910.37.14. © *Royal Ontario Museum*.



Plate 48. Statue of Ankhwa. 3rd Dynasty, Saqqara, British Museum, London. EA 171. © *British Museum*.



Plate 49. Stool with lion shaped legs. Middle Kingdom. Museum Gustavianum, Uppsala University. B-2. © *Museum Gustavianum, Uppsala University.*



Plate 50. Stool with lion shaped legs. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8614. © *Egyptian Museum, Turin.*



Plate 51. Simple stool with shaped legs. Beni Hasan. 9th–12th Dynasty. Ashmolean Museum, Oxford. AN1896-1908 E.4162.
Photographic credit: Lorraine March-Killen.



Plate 52. Simple stool with shaped legs. Beni Hasan. 9th–12th Dynasty. Ashmolean Museum, Oxford. AN 1896–1908 E.4162.
Photographic credit: Lorraine March-Killen



Plate 53. Simple stool with shaped legs. Beni Hasan. 9th–12th Dynasty. Ashmolean Museum, Oxford. AN 1896–1908 E.4162.
Photographic credit: Lorraine March-Killen.



Plate 54 (left). Simple stool with shaped legs. 18th Dynasty. National Museums of Scotland, Edinburgh. 1956.110. © *National Museums Scotland*.



Plate 55 (right). Folding stool. Metropolitan Museum of Art, New York. MMA 12.182.58. © *Metropolitan Museum of Art, Rogers Fund, 1912 (12.182.58)*.



Plate 56. Folding stool. Middle Kingdom. Royal Ontario Museum, Toronto. 910.37.17. © *Royal Ontario Museum*.



Plate 57 (left). Folding stool. Tomb of Ani. New Kingdom. British Museum, London. EA 29284. *Photographic credit: Lorraine March-Killen.*

Plate 58 (right). Folding stool. Tomb of Ani. New Kingdom. British Museum, London. EA 29284. *Photographic credit: Lorraine March-Killen.*



Plate 59. Folding stool. Tomb of Ani. New Kingdom. British Museum, London. EA 29284. *Photographic credit: Lorraine March-Killen.*



Plate 60. Folding stool. Tomb of Ani. New Kingdom. British Museum, London. EA 29284. *Photographic credit: Lorraine March-Killen.*



Plate 61. Folding stool. 18th or 19th Dynasty. Royal Ontario Museum, Toronto. 914.2.1. © *Royal Ontario Museum.*

Plate 62. Folding stool. 18th Dynasty.
Manchester University Museum. 4229.
*Photographic credit: Lorraine
March-Killen.*



Plate 63. Folding stool. 18th Dynasty. Manchester University Museum. 4229. *Photographic credit: Lorraine March-Killen.*



Plate 64. Stool. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62035, Carter No. 83. Burton Photograph p0353.
© Griffith Institute, University of Oxford.



Plate 65. Low stool. 18th Dynasty. British Museum, London. EA 46705. *Photographic credit: Lorraine March-Killen.*

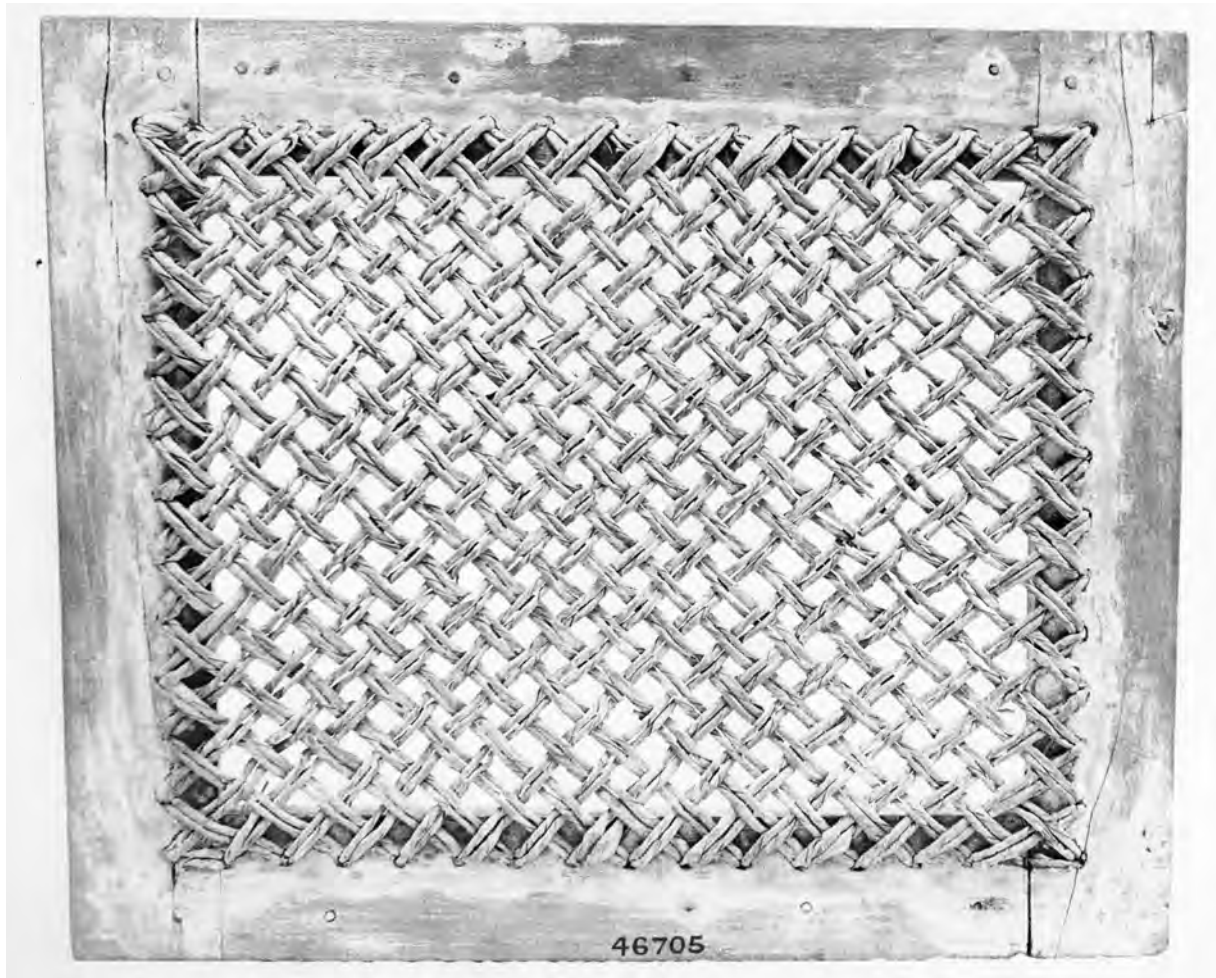


Plate 66. Low stool. 18th Dynasty. British Museum, London. EA 46705. *Photographic credit: Lorraine March-Killen.*



Plate 67. Low stool. Medelhavsmuseet, Stockholm. MM 19.671. © *Medelhavsmuseet, Stockholm.*



Plate 68. Three legged stool. Tarkhan, 1st Dynasty. UC 17173. Petrie Museum of Egyptian Archaeology. © *Petrie Museum of Egyptian Archaeology, UCL*.



Plate 69. Three legged stool with dished seat. British Museum, London. EA 2481. © *British Museum*.



Plate 70. Three legged stool. 18th or 19th Dynasty. National Museums of Scotland, Edinburgh. 1956.107. © *National Museums Scotland*.



Plate 71. Three legged stool. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62043, Carter No. 412. Burton Photograph p1670. © *Griffith Institute, University of Oxford*.



Plate 72. Stool. New Kingdom. National Museums of Scotland, Edinburgh. 1956.111. © *National Museums Scotland*.



Plate 73. Stool with concave seat. Narodowe Muzeum, Warsaw. 143344 MNW (on loan from Louvre Museum, Paris E 3858).
© *Narodowe Muzeum, Warsaw*.



Plate 74. Lattice stool. 18th Dynasty. Brooklyn Museum, New York. 37.45E. © *Brooklyn Museum, New York.*



Plate 75. Lattice stool. Medelhavsmuseet, Stockholm. MM 19.668. © *Medelhavsmuseet, Stockholm.*



Plate 76. Lattice stools. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8512 and 8511. © *Egyptian Museum, Turin.*



Plate 77. Lattice stool. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62041, Carter No. 81. Burton Photograph p0352.
© *Griffith Institute, University of Oxford.*



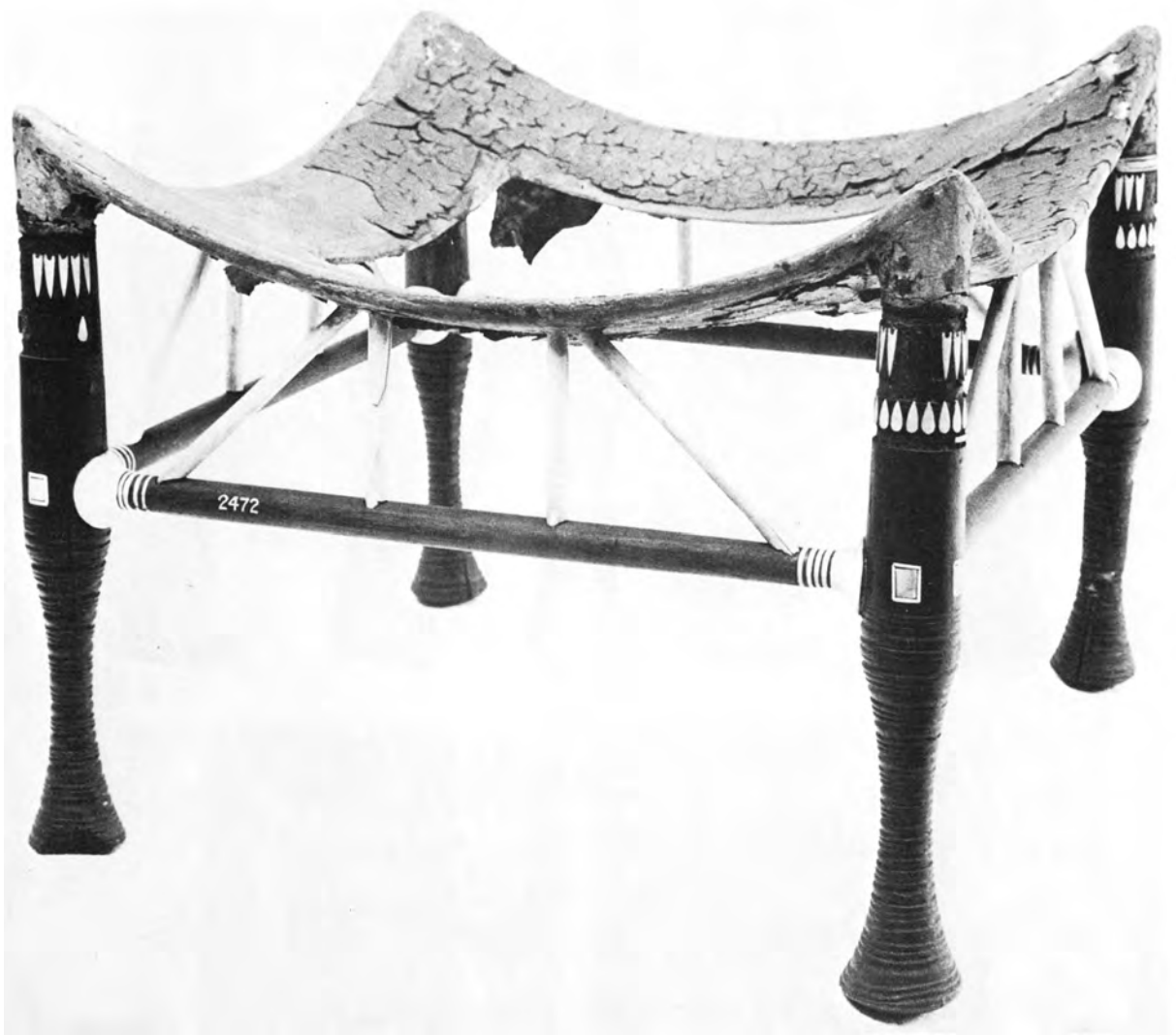
Plate 78. Stool. Tomb of Tutankhamun.
Egyptian Museum, Cairo. JE 62038, Carter
No. 467. Burton Photograph p1295.
© Griffith Institute, University of Oxford.

Plate 79. Round stool leg. 18th Dynasty.
Manchester University Museum. 542.
*Photographic credit: Lorraine
March-Killen.*





Plates 80–81. Round stool leg. 18th Dynasty. Manchester University Museum. 542. *Photographic credit: Lorraine March-Killen.*



Plates 82–83. Round legged stool. 18th Dynasty. British Museum, London. EA 2472. *Photographic credit: Lorraine March-Killen.*



Plate 84. Round legged stool. 17th or 18th Dynasty. Metropolitan Museum of Art, New York. MMA 14.10.4. © *Metropolitan Museum of Art, Gift of the Earl of Carnarvon, 1914 (14.10.4).*

Chapter 5

Chairs

Second Dynasty Chairs

The chair developed from the stool during the 2nd Dynasty, c. 2890–2686 B.C. Two stelae from the 2nd Dynasty cemetery at Helwan show fine examples of simple straight back chairs (Saad 1957: 8–10, figs. 4–5, pl. IV). First is the stele of Prince Nisuheqet (Tomb 964 H8), Figure 24, showing him seated on a chair with a high back which is constructed from plain sawn boards. The chair is elevated on a platform in front of which is a table that the prince touches with his right hand. Another chair which is similar to the previous example shows Lady Menkhetka seated, but this stele is in a very poor condition. The final example of a 2nd Dynasty chair is illustrated on a beautiful stele of Sehefner (Tomb 2146E, Saqqara: see Quibell 1923: pls. XXVI–XXVII). Sehefner is shown, Figure 25, seated on a high back chair, with straight plain legs which are held together by seat rails and made rigid by the stretchers beneath. The back of this chair is not as high as Prince Nisuheqet's chair; the top rail of the back support is level to the middle of the Sehefner's back. This must have been slightly uncomfortable, so the cushion on which Sehefner sits extends up from the seat and over the top rail of the chair's back.

It is noticeable that both chairs are elevated on platforms, none of the bovine legged stools illustrated in the Helwan stelae are shown placed on platforms. It would seem that the earliest chairs were used in a more formal setting.

Chairs from the Tomb of Hesyra

The chairs which are illustrated in the wall paintings from the tomb of Hesyra, 3rd Dynasty, c. 2660 B.C., are similar in design to the two types of stools also discovered there. The first, Figure 26, shows the front elevation of a straight leg chair which has curved braces connecting the seat rail

to the legs. The back support of this chair seems again to have been an addition as is the case with the second chair, Figure 27. This chair is much lower than the first, and has legs carved in a bovine form, attached to the seat rails by simple mortises and tenons which are tied together by leather thongs (Quibell 1913: pl. XVIII).

Middle Kingdom Chairs

From the vast collection of chairs which are illustrated on Middle Kingdom stelae, c. 2055–1650 B.C., and now preserved in the Egyptian Museum, Cairo, we may see further developments in chair design and construction. Straight leg chairs with cushioned backs were still being manufactured (Figure 28.1) as were animal leg chairs with plain vertical back supports (Figure 28.2) which are also upholstered. One of the most evident features of chairs from this period is that they are more styled, and the old bovine shaped legs are giving way to the more slender lines of gazelle legs (Figure 28.3) and lion legs. Another interesting feature is that none of the chairs seem to have been jointed and tied with leather; almost certainly joints were being glued and dowelled.

The back supports of chairs were also becoming more naturally designed to take the shape and weight of the human back (Figure 28.4); this now eliminated the need to cushion the back support. Originally such back supports would have been carved from the solid block of wood, but it must have become evident during the 2nd or 3rd Dynasties that the curved qualities of such supports could be achieved by the careful arrangement of angled battens from the seat to the top back rail. This approach was used widely during the Middle Kingdom and onwards, and can be defined generally as an open back chair construction.

From the stelae of the Middle Kingdom several examples of open back chair are shown. A fine animal

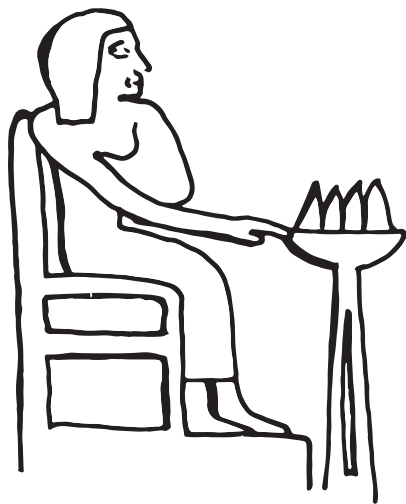


Figure 24. Chair. (Stele of Prince Nisuheget, Tomb 964 H8, Helwan, 2nd Dynasty).



Figure 25. Chair. (Stele of Sehefner, Tomb 2146E, Saqqara, 2nd Dynasty).

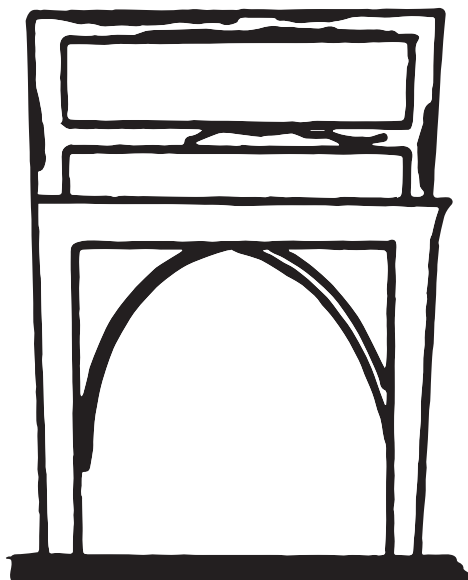


Figure 26. Chair. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty)

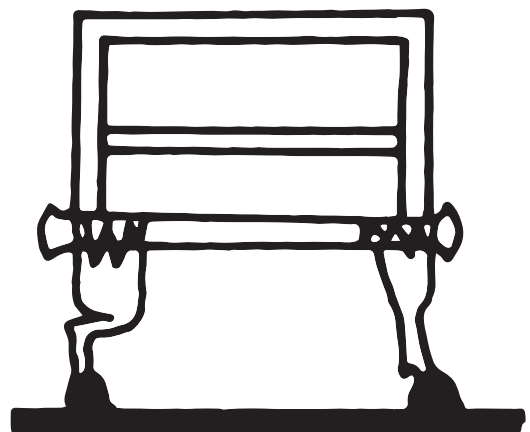
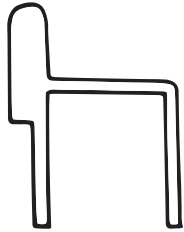


Figure 27. Chair. (Tomb painting, Tomb of Hesyra, Saqqara, 3rd Dynasty)



28.1



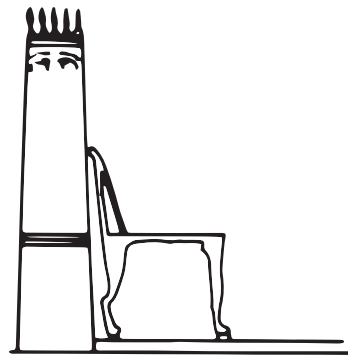
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28.3



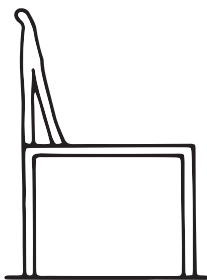
28.4



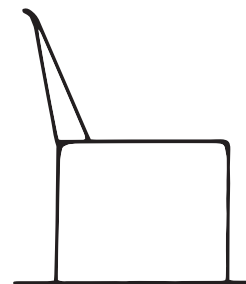
28.5



28.6



28.7



28.8

Figure 28. Middle Kingdom chair designs.

legged chair is elevated on a small platform (Figure 28.5) which still indicates the formal use these chairs were given. Another chair (Figure 28.6) has a back support which is deeply recessed and has a centre supporting strut. The supporting uprights are all jointed into a curved top rail. Patterns on this chair well may indicate inlay or paintwork simulating animal skin. Open chair back supports were not confined to animal leg chairs because two straight leg chairs are also illustrated (Figures 28.7 and 28.8).

New Kingdom Chairs

1. CHAIR (PLATE 85)

18th Dynasty. Nag el-Deir. Cemetery 3500, Tomb N3746, pit chamber C.

Phoebe A. Hearst Museum of Anthropology, University of California, Berkeley. 6-2062.

Height 690 mm, width 415 mm, depth 420 mm.

From the excavations undertaken by Mace, under the direction of Reisner, during a 16 month period, December 1901–March 1903 at Nag el-Deir, were discovered the fragmented parts of a chair. Originally dated as being either 2nd or 3rd Dynasty, a reappraisal of the excavation data indicates the chair came from an 18th Dynasty context (Fischer 1996: 149, fn. 46). The chair remained in a fragmented form until 1966, when it was reconstructed for a major exhibition.

This chair has legs constructed of square sectioned wood, they stand on flat pads and the top of each leg is rounded over. Below are the mortise holes through which the seat rails are connected to the legs. Both pairs of front and back legs are also held by stretchers (Plate 85). As with the bedframe from Deir el-Medina, (Narodowe Museum, Warsaw, 139068 MNW, Plate 38), the side rail tenons pass through the top of each leg at right angles to each other on two separate levels. These joints would have been wedged to give the frame rigidity. Along the inside of the seat rails are drilled holes through which the webbing of string passes. The seat has now decayed leaving only small strands of string trapped in the holes of the seat frame.

From each of the back legs of the chair spring two vertical supports which are connected to the legs by a type of vertical bridle joint. Although many chairs do have a separate back support, others have this upright cut from one piece of wood. In this example the back support is an addition, almost as if the carpenter had designed firstly a stool before adding the chair back.

The top rail of the back support is held in position by these upright extensions. Below this is the frame of the back support which is stub mortised and tenoned together, which encloses three vertical panels stub mortised and

tenoned into the top and bottom rails of the back support frame. The bottom of the frame is again mortised and tenoned into the side rails of the seat, and is additionally secured with two brackets which are dowelled into both elements.

2. CHAIR WITH OPEN BACK (PLATE 86 AND FIGURE 29)

18th Dynasty.

British Museum, London. EA 2479.

Height 730 mm, depth 490 mm, width 410 mm.

Baker 1966: 132, fig. 187.

This is a very fine open back chair and is similar in construction to the Middle Kingdom examples we have previously examined. The chair is constructed from a light coloured soft wood, both the front legs (A) are square section, the tops being rounded over, while beneath are the mortise holes which are at right angles to each other, into these engage the tenons of the seat rails (B) and (C). These joints are heavily wedged. The front and back (D) legs are also held apart by stretchers (E) which are jointed into the legs by bareface mortises and tenons.

The back legs of the chair (D) extend to the top rail of the back support (G) which is slightly curved and has the characteristic moulded edge. The lower surface of rail (G) is cut with two angles to allow the joints of the vertical back legs (D), centre strut (H) and the inclined supports of the back to enter this single element. The inclined recessed back support is held in position by two outer rails (J) which are mortised and tenoned into the front of rail (G) and the side seat rails (B). Between elements (J) is placed a curved brace (K), which supports the small of the human back. This element is mortised, tenoned and dowelled into the inclined outer supports. A further four slats (L) are placed in the back support to hold the middle of the owners back.

The seat of the chair is made of plaited reed and rush strands which pass through holes drilled in the seat rails and are then woven across to form a string seat, a common arrangement used in the New Kingdom.

3. OPEN BACK CHAIR (PLATE 87)

18th Dynasty.

Brooklyn Museum, New York. 37.40 E.

Height 900 mm, width 456 mm, depth 473 mm.

Baker 1966: 128, figs. 173–174.

Another fine open back chair is now preserved in the Brooklyn Museum. It beautifully illustrates the second type of chair, that is, with animal leg supports. The quality of this chair is better than the previous example. Here the legs are finely carved, representing those of a lion, and are set on drums; they are mortised, tenoned

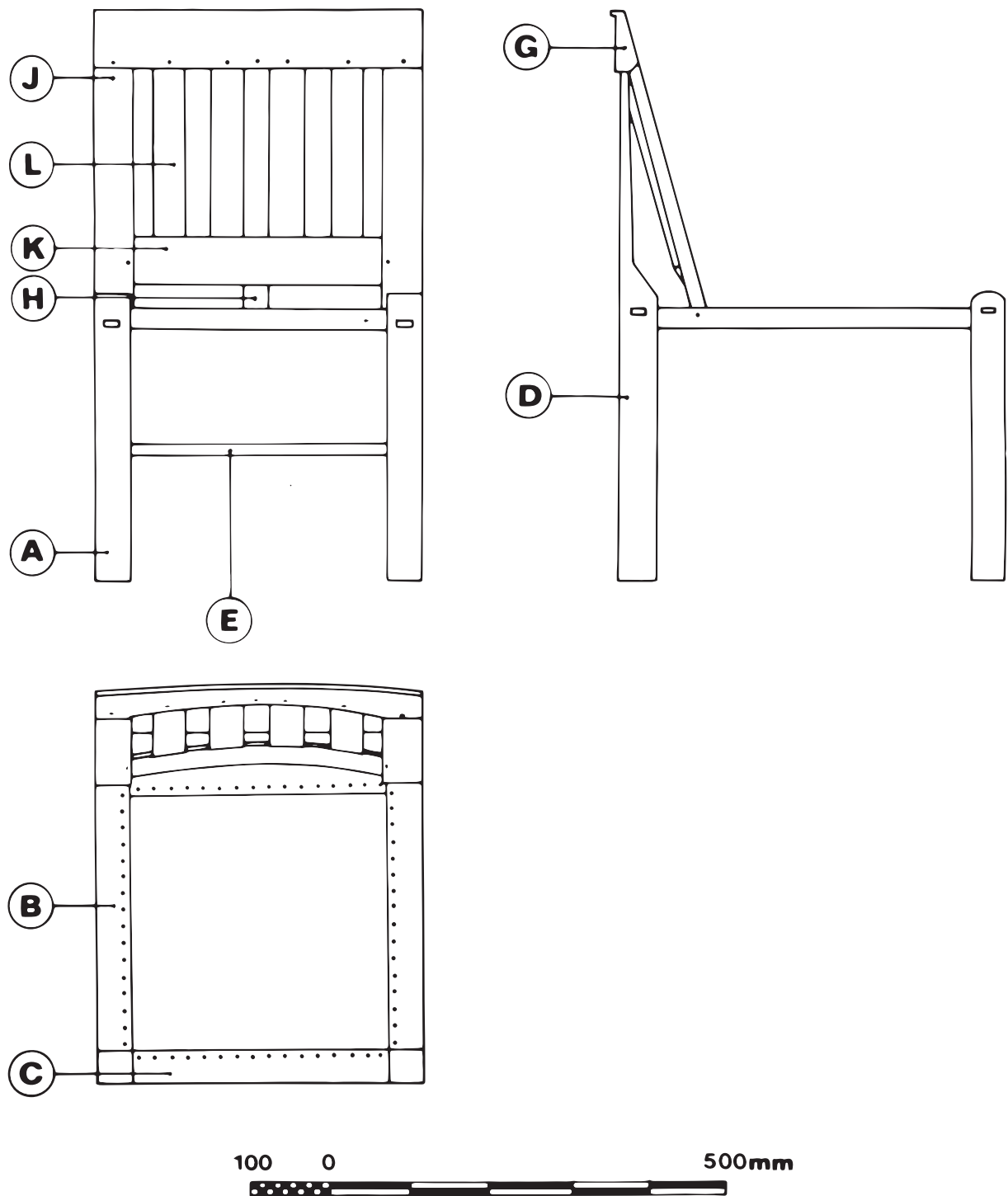


Figure 29. Chair. British Museum, London. EA 2479.

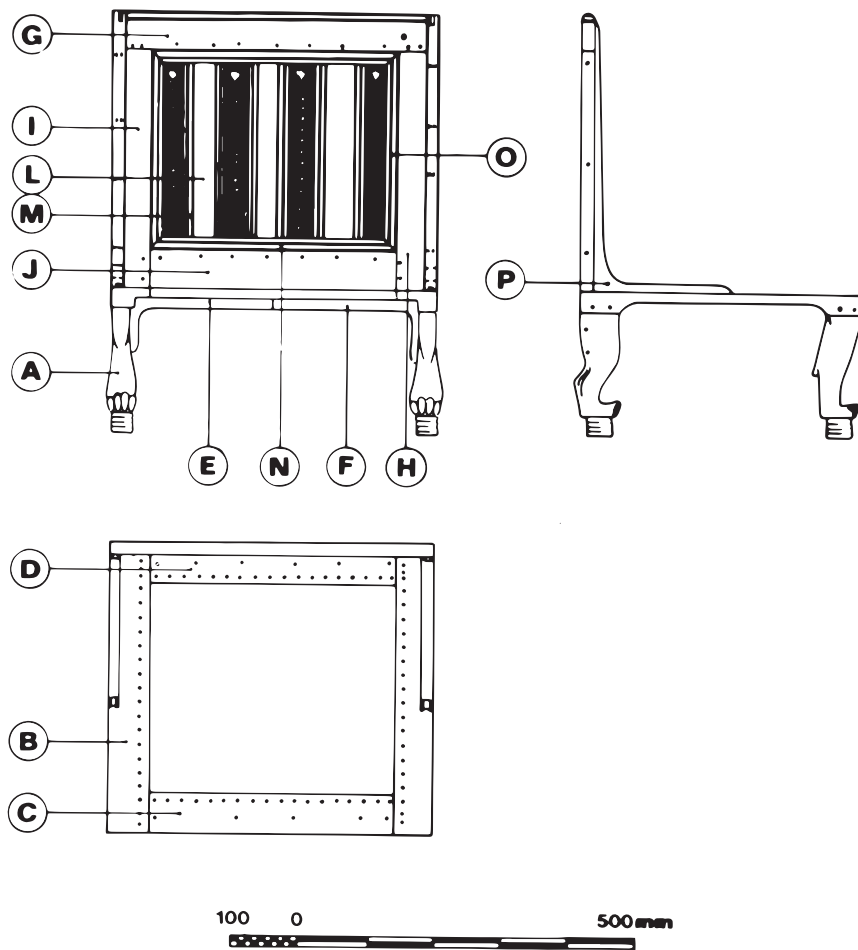


Figure 30. Chair. British Museum, London. EA 2480.

and dowelled into the plain side seat rails. Both side rails have the front and back seat rails jointed into them; and a double elbowed brace is dowelled into the underside of the front and back seat rail and the inside of the chairs legs. The back support of this chair is constructed as the previous example (EA 2479). A major difference in construction is that the back legs are not extended, but an additional vertical element is included and jointed into the seat above the back legs. Both the inclined and vertical outer members of the back support are additionally secured by single elbow braces dowelled into position.

This chair's back panel is constructed of seven inclined boards; between each are thinner stringing strips of alternatively coloured woods. The outer strips are mitred in the corners and the panel is framed by horizontal strips of wood. Decoration of the back supports of chairs commonly followed this stringing pattern during the 18th Dynasty and a more detailed analysis of such construction is more easily understood by examining the fragmentary

chair parts preserved in the Ashmolean Museum, Oxford, AN1890.859 (see No. 5 below).

Both the top rail and side rails of the back support are inlaid with discs of ivory, another common feature on fine chairs from the 18th Dynasty. The seat, now lost, would have been woven of string, which would have passed through drilled holes in the seat rails.

4. LOW STRAIGHT BACK CHAIR (PLATE 88 AND FIGURE 30)

18th Dynasty.

British Museum, London. EA 2480.

Height 620 mm, length 420 mm, width 480 mm.

Baker 1966: 132, fig. 184.

Chairs with plain straight backs were also being constructed during the New Kingdom, and many examples are preserved in collections. They are usually small with low seats which make them unlikely to have been used for

sitting upon in a conventional manner. This fine example is constructed in a hardwood which has been well finished and is roughly polished. The legs (A) are set on drums and are well carved and attached to the side rails (B) by mortises and tenons; each joint is secured by two dowels of a slightly darker wood. Both the front (C) and back (D) rails of the seat are mortised and tenoned to the inner edges of the side rails (B) and each joint is again secured by two darker wood dowels. Double elbow braces are employed on the front and back leg assemblies with the seat rails (E) and (F); each brace is made of two parts and butt jointed underneath the seat rails. These braces are held in position by dowels which pass completely through the front and back seat rails and only partly into the legs. The straight back support is constructed of a frame of light coloured wood (G) (H) (I) (J) into which are placed vertical panels (L) and strips (M) of alternating coloured woods. This central panel is edged with horizontal and vertical strips (N) (O) of similar coloured woods and are mitred in the corners to produce a decorative frame. The vertical panels (L) and not the strips (M) are set in mortises by long tenons into both the top (G) and bottom (J) rails of the outer frame.

The back support is held to the seat by a pin joint and a single elbowed bracket (P) which is made of a light coloured wood with dark veneers, cut to fit the shape and glued onto both sides. This is then attached by dowels to both the side rails of the seat and back support.

5. CHAIR FRAGMENTS, STRAIGHT BACK (PLATES 89–93)

18th Dynasty. Lahun. Tomb of Maket.
Ashmolean Museum, Oxford. AN1890.859.
Height 600 mm, length 470 mm, width 570 mm.
Petrie 1891: 45, pl. XXVII.

This particular chair was discovered by Petrie at Lahun in the Tomb of Maket. When discovered it was without its front legs. It was taken to pieces for transportation and has never been reconstructed. However, this must have been a particularly fine example and very similar in construction to the previous chair examined, (EA 2480). From this chair we are able to learn more about the basic construction of all 18th Dynasty straight back chairs, particularly in examining the method by which the back support was manufactured. The following photographic record is of value in assessing the chair's basic construction. This low chair has lion fashioned legs set on drums (Plate 90). Both front and rear legs are mortised and tenoned into the side seat rails; the mortises are clean and well cut which indicates a very sharp mortise chisel. Each joint is glued, although much decayed, and held by two dowels. The front and back seat rails are mortised, tenoned and dowelled by a single dowel to the side seat rail (Plate 91). One of the holes through which the string for the

seat passes is also drilled through this joint and would have acted to strengthen the seat frame when the entire seat was woven.

This chair's back panel is attached to the seat by a mortise and tenon on each end frame (Plate 91) and a bracket which is either steam bent or grown to that shape. This bracket is attached to both elements by pairs of small dowels, some of which are still in place in the bracket although slightly raised in their holes. Finally the back panel and seat is connected by a series of large dowels which pass through the outer edge of the back seat rail into the lower frame of the back panel (Plate 91).

This chair's back panel is constructed of a frame into which are placed vertical panels of wood. The outer frame is mortised and tenoned together. The bottom rail of the frame is jointed horizontally with the vertical side rail (Plate 92), while the side rail is jointed with a vertical mortise and tenon to the top rail of the back support (Plate 93). Along the inner surfaces of the top and bottom rails of the back support frame are cut mortises into which engage the tenons of the vertical panels. The tenons are far too long to fully engage into the mortises, for strips of dark wood possibly (African Blackwood, as these elements are in much better condition than the rest of the wood), are employed as a decorative feature. Through each strip are delicately cut fine slots which directly oppose the mortises in the frame. Even with two strips in position the shoulder of the tenon fails to sit squarely and tightly on the uppermost strip of African Blackwood (Plate 92). It would seem as in the British Museum chair, EA 2840, that two further strips of material, possibly ivory or a lighter coloured wood would have been used to fill the laminated space.

Plates 94–95

A chair of similar construction to that in the Ashmolean Museum, Oxford, AN1890.859, is now preserved in the Metropolitan Museum of Art, New York. (Rogers Fund 1912. MMA 12.182.28), Plate 94. It has been dated as 18th Dynasty and was discovered at Drah abu'l Negga, Thebes (Baker 1966: 132, fig. 183). The design and constructional approach is almost identical to the Oxford example. Another chair also in the Metropolitan Museum of Art, (Rogers Fund 1936, MMA 36.3.152) and dated 18th Dynasty is also from Thebes. It is constructed of boxwood and acacia; the seat is supported by the front and rear legs of a lion set on drums. The back of this chair has the now characteristic design of opposing coloured wood panels and strips. Above this in another frame of wooden strips are placed the carved symbols “*tyet*” and “*djed*” in the centre of which is a figure of the god Bes. A fine “*tyet*” knot from a piece of furniture showing clearly the tenons by which the figure engages in the slots of the frame is now preserved in the Fitzwilliam Museum, Cambridge (E.GA.4565.1943).

Another chair with a straight back is preserved in the National Museums of Scotland, Edinburgh (1956.106), Plate 95. This chair's back panel is very similar to the Metropolitan Museum of Art example (MMA 12.182.28, above) but the seat is supported by four plain legs with rounded tops, through which the seat rails pass at right angles to each other. See British Museum chair EA. 2479 for an analysis of this type of seat and leg construction, above, No. 2.

6. ROYAL CHAIR (PLATE 96)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62032. Carter No. 349. Height 730 mm, depth 390 mm, width 345 mm.

Carter 1933: 113–114, pls. XXXIV, LXVIII; Baker 1966: 83–84, figs. 97–98; Beinlich and Saleh 1989: 171–172; Svarth 1998: 80 (illus.); Eaton-Krauss 2008: 68–74, figs. 10–12, pls. XVIII–XXI.

Many fine chairs were discovered in the tomb of Tutankhamun. One of the less well known is this child's painted chair (Plate 96). Like most chairs, it is supported on lion's legs fashioned in wood, the drums of which are covered in bronze plate beaten around the wooden core, and the entire frame is lightly gessoed. Enclosed between the legs, seat rails and stretchers on all four sides of the seat is a decorative lattice arrangement of intertwined upper Egyptian lily and papyrus flowers which indicates the unification of Upper and Lower Egypt under one crown. This theme originates in furniture as early as the 4th Dynasty, 2613 B.C., where it may be seen on the diorite-gneiss seated statue of Khafra, carved on side panels of the throne on which he is seated (Egyptian Museum, Cairo, JE 10062).

The seat of this chair, Plate 96, is formed in a deep double cove, made of seven curved panels which are mortised and tenoned into the curved side rails under which the legs are jointed and dowelled. In this chair the back rest is again supported by three vertical members, one in the centre, the remaining two projecting above each leg.

An openwork panel is incorporated into the back support; it is made of three panels each mortised and tenoned into the top and bottom rails of the frame. The design shows a hawk with wings partly open, and each wing supports a cartouche with the praenomen and nomen of the king. The bird's claws each hold a "*shen*" symbol, below the tail is the "*nub*" symbol, and beneath its wings "*ankh*" and "*was*" symbols.

7. CARVED ROYAL CHAIR (PLATE 97)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62029. Carter No 87.

Height 960 mm, width 475 mm, depth 510mm.

Carter 1923: 204 f, pls. LX–LXI; Baker 1966: 83, figs.

95–96; Beinlich and Saleh 1989: 32–34; Svarth 1998: 81 (illus.); James 2000: 296 (colour illustration); Eaton-Krauss 2008: 57–67, figs. 7–9, pls. XI–XVI.

This carved chair, Plate 97, is of similar construction and design to the previous example (JE 62032) being made probably of cedar, but not gessoed. The feline legs are placed on drums which are covered with gold sheet and set upon thick bronze pads; the claws are inlaid with ivory. The legs are mortised and tenoned into the seat rails and pinned with three gold-capped dowels to each joint. Beneath the seat and supported by the stretchers was originally placed the flower ornament signifying the unification of Upper and Lower Egypt, but this has been torn away by some ancient robber.

The seat is of double cove form, constructed of seven curved slats each jointed into the side rails of the chair. From the back rail of the seat of this chair run the three supports which hold in position the inclined backrest. The top rail of this frame is decorated with a gold covered solar winged emblem and on either side are two cartouches bearing the praenomen and nomen of the king. Below this is a secondary curved rail which is mortised, tenoned and secured by gold-capped dowels into the vertical side rails of the back support. It may be seen by the arrangement of the gold dowel caps that the jointing construction is similar to the Oxford example, our No. 5 above.

The openwork carving of this chair, like the previous example (JE 62032), is made from three carved panels jointed into both top and bottom rails. The main figure on the inner panel is the god "*Heh*" who supports on his right arm the "*ankh*" sign and holds in each hand palm stems, while he kneels upon a "*nub*" sign. Both outer panels of the openwork show the Horus falcon, solar disc and cobras facing a cartouche which bears either the nomen or praenomen of the king.

Brackets connect the seat and back support of this chair, wrought in gold with spiral patterns embossed upon them. Six of the centres of these spirals, on each bracket, are false, as they are heads of the dowels which connect both elements.

8. ROYAL ARMCHAIR (PLATE 98 AND FIGURE 31)

4th Dynasty, Giza.

Egyptian Museum, Cairo, JE 53263 (original).

Reproduction, Plate 98, made by Cabinetmaker: Joseph Gerte, 1886–1967.

Armchair of Queen Hetepheres I (reproduction).

Egyptian, Old Kingdom, Dynasty 4, reign of Snefru to Khufu, 2575–2528 B.C.

Egypt, Giza, Tomb G 7000 X (original).

Wood, gold, copper, silver, leather, faience, ebony.

Height × width × depth: 79.5 × 70.7 × 66 cm (31 ³/₈ × 27 ³/₄ × 26 in.)

Museum of Fine Arts, Boston.

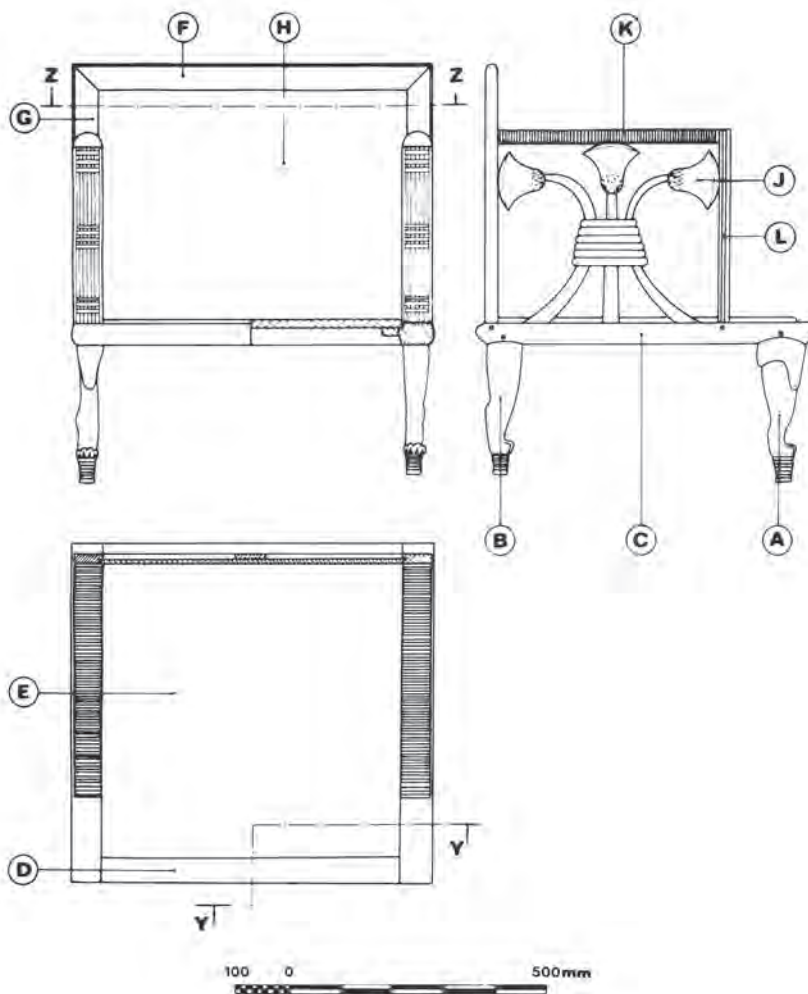


Figure 31. Royal Armchair. (Queen Hetepheres I, Giza, 4th Dynasty), Egyptian Museum, Cairo. JE 53263.

Gift of Mrs Charles Gaston Smith and Group of friends).

38.957.

Reisner and Smith 1955: 28–32, fig. 32, pls. 15–16;

Baker 1966: 39 and 41, fig. 28.

The armchair of Queen Hetepheres, as with all the furniture from her tomb, had to be laboriously restored, for the wood had decayed to leave only the gold shells. From this it was only possible to reconstruct one of the two armchairs which were originally deposited in the tomb. The second armchair had so badly decayed that it proved too difficult to reconstruct, as the use of gold sheet was limited on this armchair to the arm panels and back support.

As with the bedframe the reconstructed armchair had legs shaped in the fashion of the front and hind legs of a lion (A) and (B). Each leg was set on a drum and the whole element covered with gold, apart from the base of the drum which was shod in copper. The front legs (A) of this chair are 280 mm in height and are slightly taller

than the back legs (B) which are 258 mm in height. This would mean that the back legs would have to be slightly raised in order to keep the seat horizontal. The legs are mortised, tenoned and dowelled into the seat rails (C). Both side (C) and cross (D) rails of the seat frame are rebated, allowing a plain board (E) to drop into the seat frame on which could have been placed a thick cushion. (see section Y–Y).

This armchair's back panel is a gold covered frame, the top rail (F) and the vertical rails (G) are connected by a mitred cross halving joint. The board of the back panel (H) seems to have been fitted by pushing it down between the vertical rails (G) which are rebated with a dovetail before the top rail was pressed into position (see section Z–Z).

Both arm panels are designed with three papyrus flowers bound together, carved in wood and overlaid with gold sheet (J). These are then tenoned into mortises in the seat rail (C), arm rest (K), arm rest support (L) and the vertical elements of the back panel (G). The front and back mortises and tenons of the arm rest (K) are secured by leather ties which pass diagonally through the joint

and are covered by the gold sheet, with small pieces of gilt over the entrance holes.

From the 4th Dynasty, armchairs were popularly used as royal furniture. No other example exists, but we may estimate their use from wall paintings and reliefs of that period. A fine 4th Dynasty, c. 2500 B.C., armchair from the tomb of Meresankh III at Giza, G7530–40, incorporates a lion into the arm panels (Baker 1966: 43, fig. 32). Two notable reliefs from the 5th Dynasty, c. 2494–2345 B.C., show Seshemnefer and Rashepses seated upon similar armchairs (Smith 1946: 291, fig. 141; Lepsius 1900: pl. 61).

9. CHILD'S ARMCHAIR. (PLATE 99)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62033. Carter No. 39.

Height 710 mm, depth 391 mm, width 370 mm.

Carter 1923: 203, pl. LIX; Baker 1966: 84, fig. 99; Silverman 1978: 30–31; Reeves 1990: 186;

James 2000: 297 (colour illus.); Eaton-Krauss 2008: 93–96, figs. 17–19, pls. XXXI–XXXIII.

This very fine solid African Blackwood armchair is very small which may indicate that it was made for Tutankhamun when a boy, and indeed it bears none of his royal titles. The lion fashioned legs are very finely carved and are placed on tall metal shod drums. The claws of the lion's feet are delicately inlaid with triangles of ivory. Each leg is mortised and tenoned into the curved side seat rails and pinned with either copper or bronze dowels which are capped with gold. The stretchers which increase the rigidity of the construction are made of circular sectioned African Blackwood elements. These are capped with ivory ferrules which fit tightly around the leg where the tenon of the stretcher engages into the mortise of the leg. The ferrules are used to conceal the joint and are carved to represent papyrus flowers. Between the stretchers and the seat rails is placed a simple lattice of African Blackwood strips.

The seat is of a double cove form, popularly used during the New Kingdom. It is constructed of a frame made from the curved seat rails into the centre of which are placed five curved slats which form the seat. They are mortised and tenoned into the seat frame and fastened with bronze and copper pins capped with gold.

The arm panels of this armchair are particularly fine as they are carved on both inner and outer panels and overlaid with gilt pressed into position. Both outer panels show an ibex, seated, with its head looking back over its shoulder at a desert plant in the corner of the panel; the whole panel is enclosed by a spiral design. The inner panels of the arm rests are also enclosed by a border but the gilt overlays a design of plants and flowers. The arm panels are attached to the seat by dowels, and also by small African Blackwood brackets which are veneered

with ivory and attached by dowels of African Blackwood to the upright frame of the arm rests.

Three vertical rails support the inclined back rest, one over each of the rear legs the other in the centre of the seat's back rail. These are connected to the seat by mortises and tenons, with small African Blackwood brackets veneered with ivory.

The top rail and part of the side rails of the back support are decorated with diamond parquetry work, while the interior consists of panels of ivory and African Blackwood surrounded by frames and stringing of both materials.

10. CEREMONIAL CHAIR (PLATES 100, 101)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62030. Carter No. 351.

Height 1020 mm, width 580 mm, depth 448 mm.

Carter 1933: 111–113, pl. XXXIII; Fox 1951: pl. 60;

Baker 1966: 82, figs. 91–92; Silverman 1978: 60–61;

Wanscher 1980: 48–64, illus. 29, 31, 33, 35, 37, 39, 41,

43; Beinlich and Saleh 1989: 172–175; Svath 1998: 78

(illus.); James 2000: 295 (colour illus.); Eaton-Krauss

2008: 75–91, figs. 13–16, pls. XXIII–XXVIII.

The design of this chair is very similar to the folding stools of the 18th Dynasty. However this chair is rigid, being unable to be closed since the back rest is held rigid by two long rails. The lower part is covered with gilt and the upper part is of African Blackwood, incised and painted with the titles and names of the king (Beinlich and Saleh 1989: 172–175). These long rails are mortised and tenoned into the floor cross rails. Both the connecting spindles are carved in African Blackwood, and are finished to represent the head and bill of a duck. The bill grasps the floor cross rails but also discreetly hides the joint. Both duck heads are inlaid with large pieces of ivory, and the stretchers which hold both legs rigid are partly covered with gold sheet, as are the centres of both connecting spindles. Beneath the seat is a decoration of flowers, gilt over wood, some of which has been ripped away and stolen.

Again the seat is very deeply dishd, and is constructed of boards which are inlaid with ivory to represent the irregular motley markings of an animal skin. In the centre of the seat are inlaid small panels which also imitate animal skin markings. From the corners hang wooden elements which are designed to simulate the legs of the hide. These are finely wrapped about the connecting spindles, underneath the seat. Red leather upon a layer of gesso, now partly decayed, was fixed to the underside of the seat. The back panel (Plate 101) is beautifully decorated with gold, inlaid faience, coloured glass, calcite and carnelian. The top rail is decorated with the Aten (solar) disc and cartouches below, on both sides of which are uraeus cobras with the solar disc. Below is the vulture goddess Nekhbet holding in her claw the “*shen*” symbol and inlaid ostrich feathers. At the tips of each

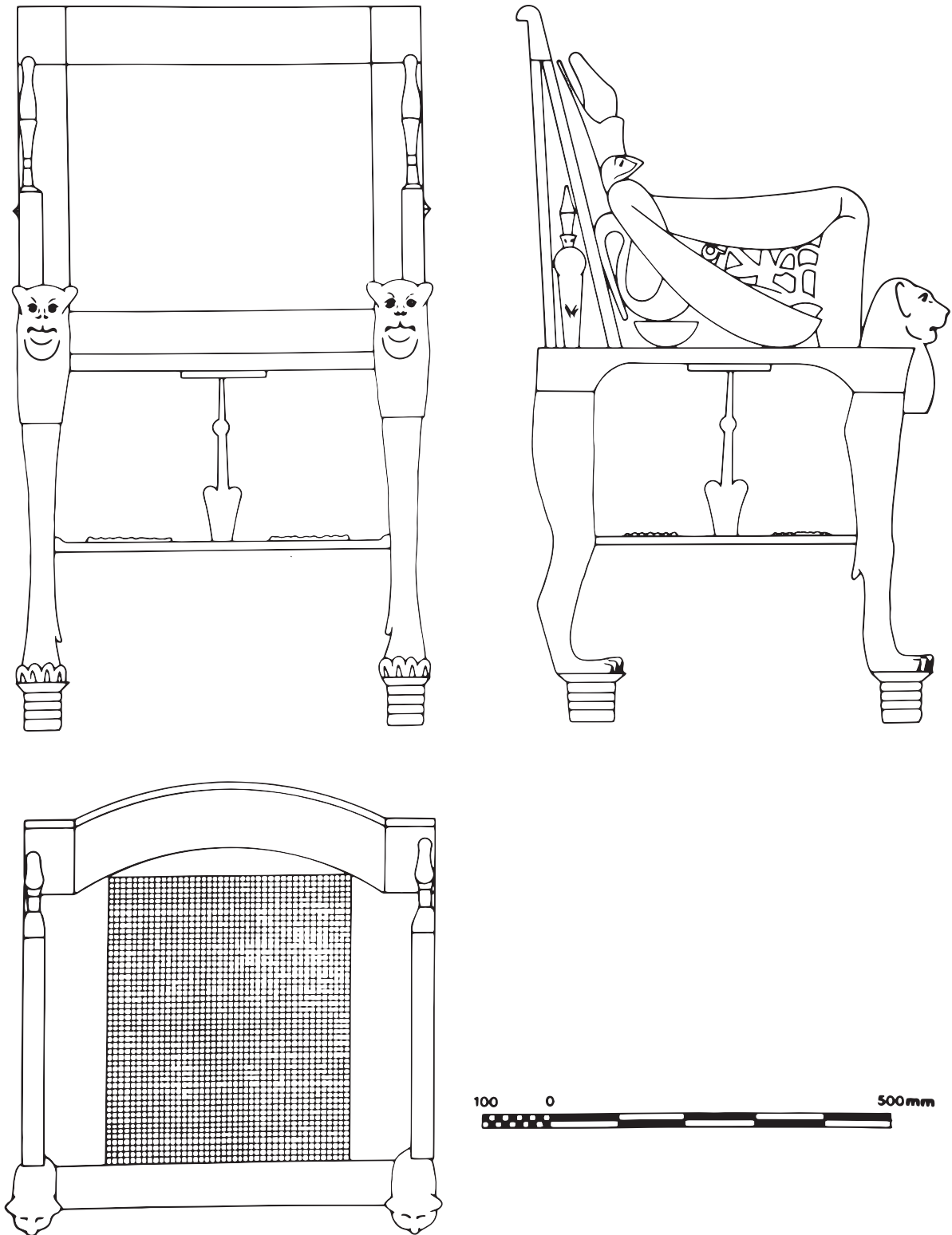


Figure 32. Gold throne. Tomb of Tutankhamun, 18th Dynasty, Egyptian Museum, Cairo. JE 62028.

wing are cartouches bearing the praenomen and nomen of the king. Both edge rails are exquisitely inlaid with stone set in gold bezels in a circular and chevron pattern. The centre panel of the back support is made of vertical panels of ivory and African Blackwood which are inlaid with the king's names.

The reverse side of the back support is gessoed and gilded with a large Nekhbet vulture with wings partly open. Again she holds the “*shen*” symbol. This design is framed within a continuous spiral pattern.

11. GOLD THRONE (PLATE 102 AND FIGURE 32)

Tomb of Tutankhamun.

Egyptian Museum, Cairo. JE 62028. Carter No. 91.

Height 1040 mm, depth 645 mm, width 530mm.

Carter 1933: 206–208, pls. LXII–LXIV; Fox 1951: pls. 9–1a; Baker 1966: 77–80, figs. 89–90; Seton-Williams 1980: pl.122; Beinlich and Saleh 1989: 35–36; Reeves 1990: 184–185 (illus.); James 2000: 288–289 (colour illus.); Eaton-Krauss 2008: 25–56, figs. 2–6, pls. III–VIII.

This is one of the most beautiful pieces of furniture made for Tutankhamun. In construction it is not unlike many 18th Dynasty chairs, except it has no double cove seat and is completely covered with thick gold sheet; apart from the drum pads, which are shod in bronze, and part of the double crown of Egypt, which is of silver sheet over wood.

The legs of the throne are fashioned in the form of the front and rear legs of a lion, the claws inlaid with turquoise-coloured glass. Beneath the seat the decorative gilded Lower Egyptian papyrus and Upper Egyptian lily flower ornament has been torn away, leaving just the *sma* sign (depicted as a human trachea) that stood for unification. Both front legs have capitals in the form of lion heads, a prominent design feature found on 18th Dynasty thrones (Naville 1904: pl. XCI; Save-Söderbergh 1957: pl. XXX). A single sheet of gold has been beaten and worked around the wooden core, and the eyes have been inlaid. It would seem from close examination of this throne that each element was individually wrapped in a single gold sheet regardless of size and complexity.

The seat, which is constructed of a flat board covered in gold, is inlaid with two thousand one hundred squares of gold, calcite and light and dark blue faience. Both the outer faces of the arm panels are inlaid with faience, to resemble a winged uraeus-cobra wearing the crown of Upper and Lower Egypt and supporting a cartouche bearing the names and titles of the king.

Probably the most splendid area is the throne's back support, which is beautifully inlaid. It shows the young pharaoh seated, in a relaxed “Amarna” style, on a simple upholstered open back chair made in faience. His wife, Ankhesenamun, is anointing him. Their skins have been chiselled and polished from red glass and their wigs are of delicately cut light blue faience. The robes that both wear are made of silver sheet embellished with calcite, faience and coloured glass.



Plate 85. Chair. Nag el-Deir. 18th Dynasty. Phoebe A. Hearst Museum of Anthropology, University of California, Berkeley.
6-2062. © Phoebe A. Hearst Museum of Anthropology and the Regents of the University of California.



Plate 86. Chair. 18th Dynasty. British Museum, London. EA 2479. *Photographic credit: Lorraine March-Killen.*



Plate 87. Chair. 18th Dynasty. Brooklyn Museum, New York. 37.40E. © *Brooklyn Museum, New York.*



Plate 88. Chair. 18th Dynasty. British Museum, London. EA 2480. *Photographic credit: Lorraine March-Killen.*

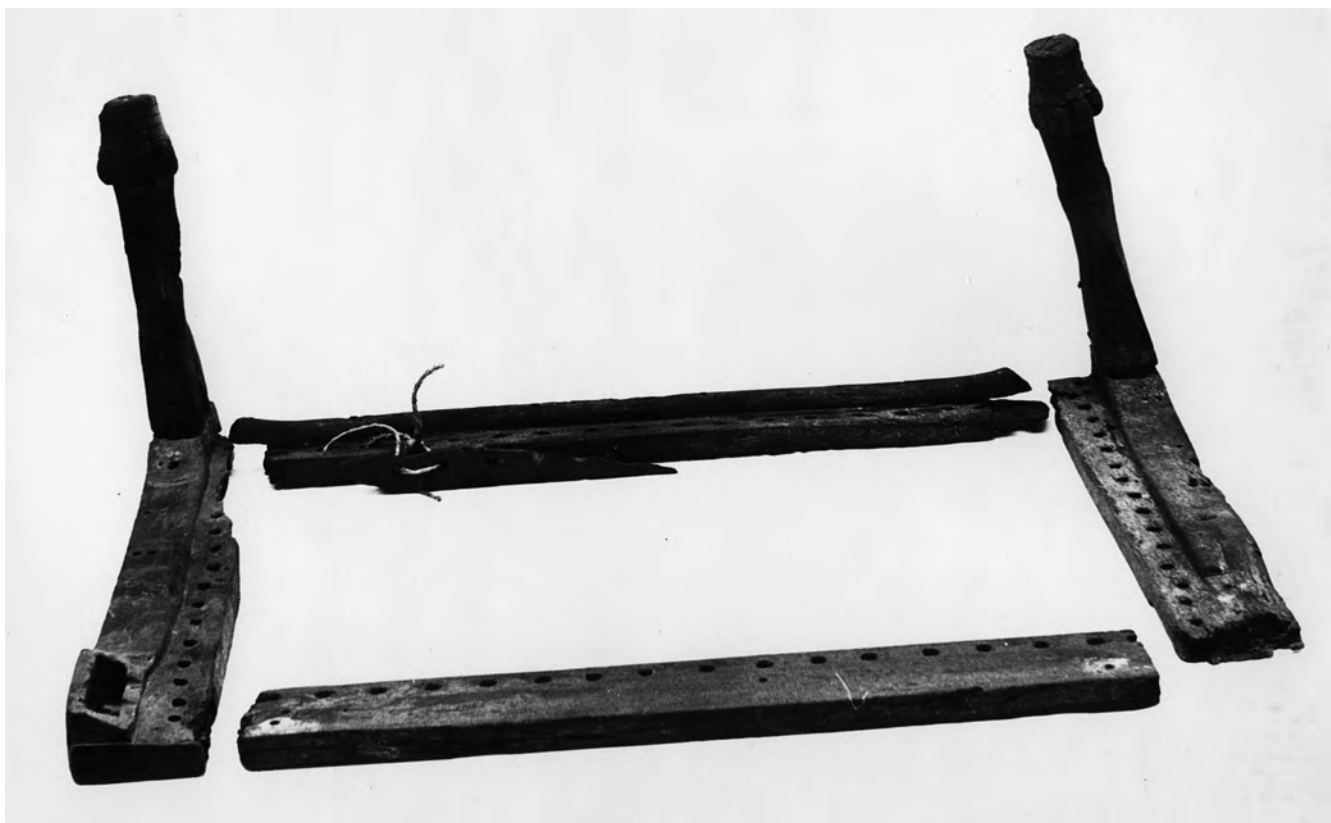


Plate 89. Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859. *Photographic credit: Lorraine March-Killen.*



Plate 90. Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859. *Photographic credit: Lorraine March-Killen.*

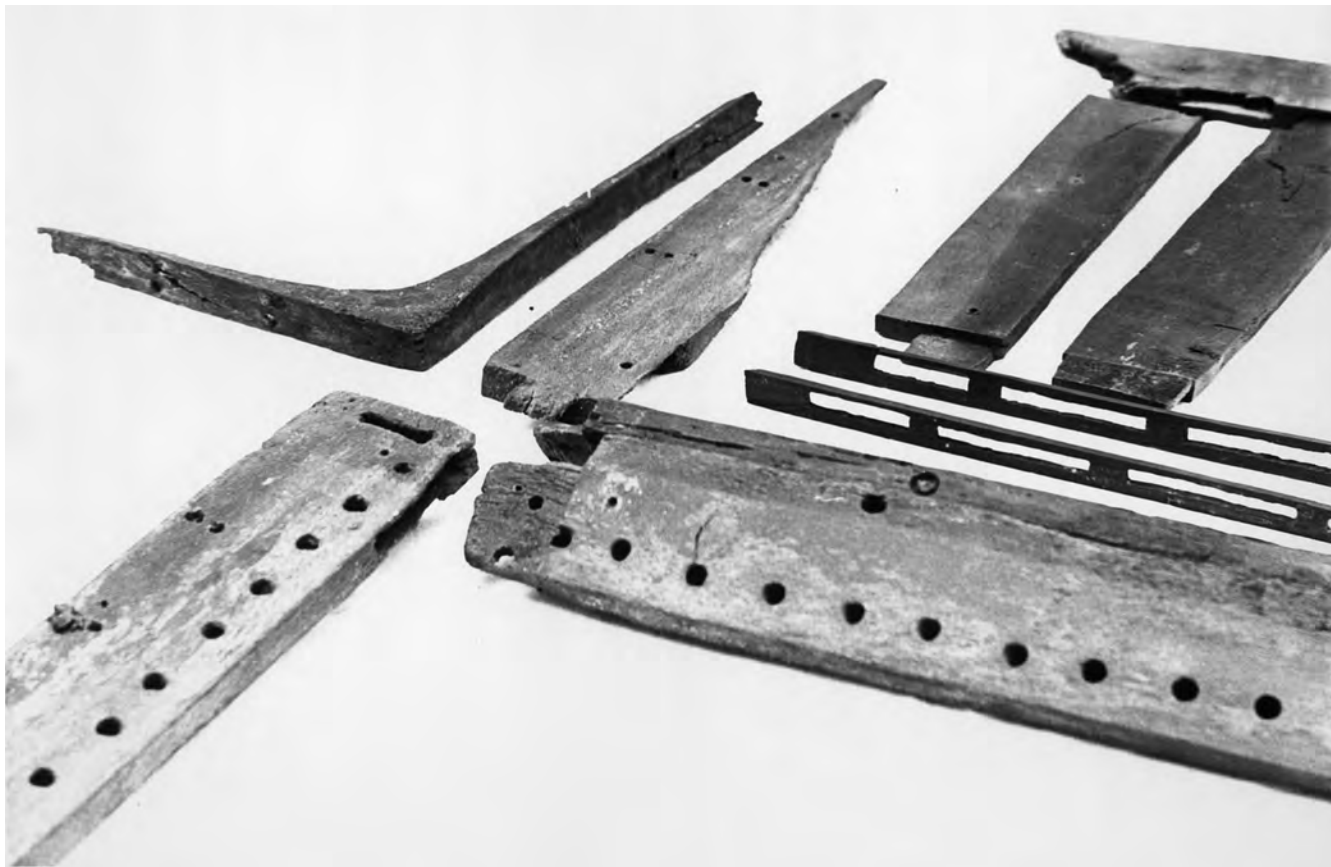


Plate 91. Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859. *Photographic credit: Lorraine March-Killen.*

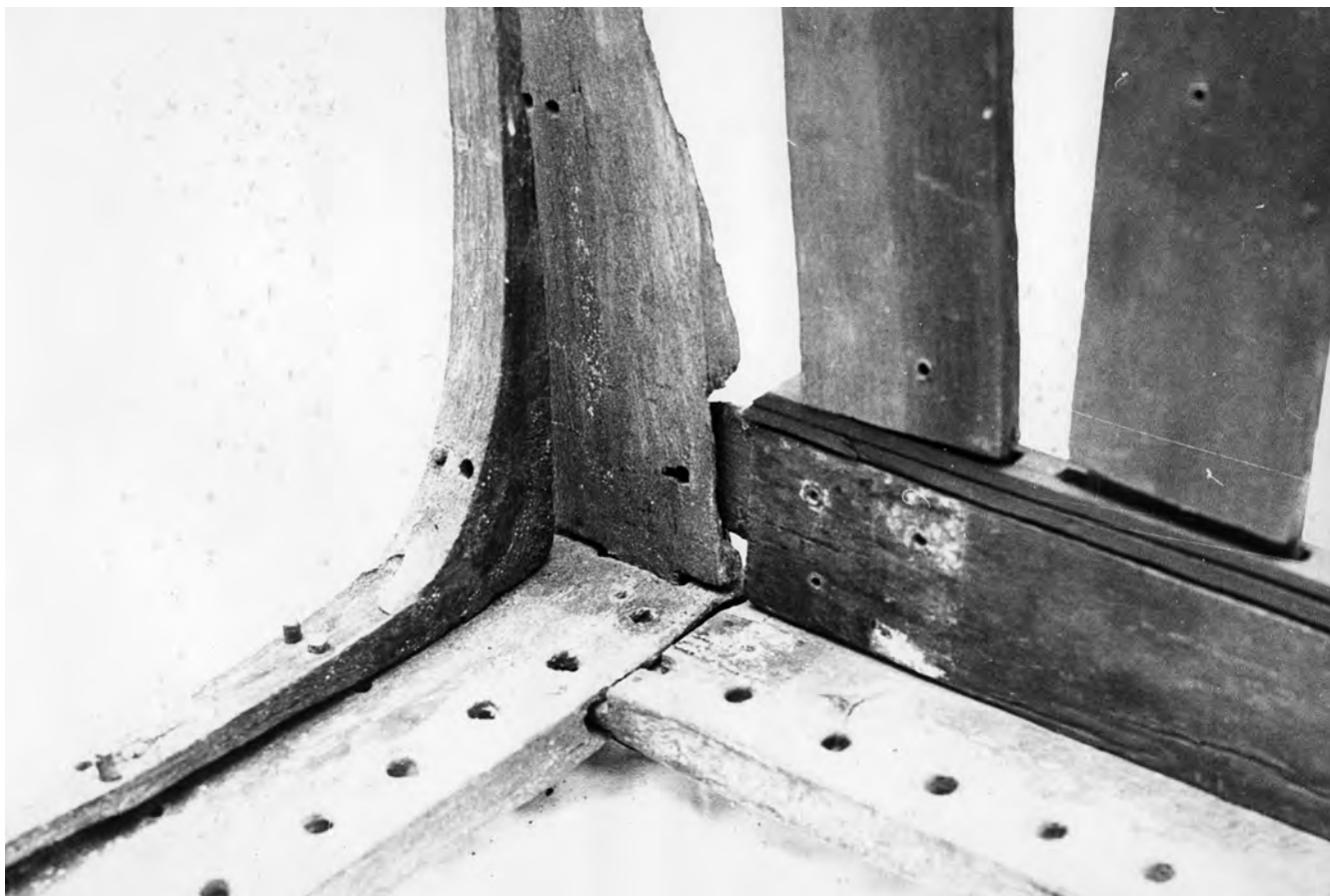


Plate 92. Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859. *Photographic credit: Lorraine March-Killen.*

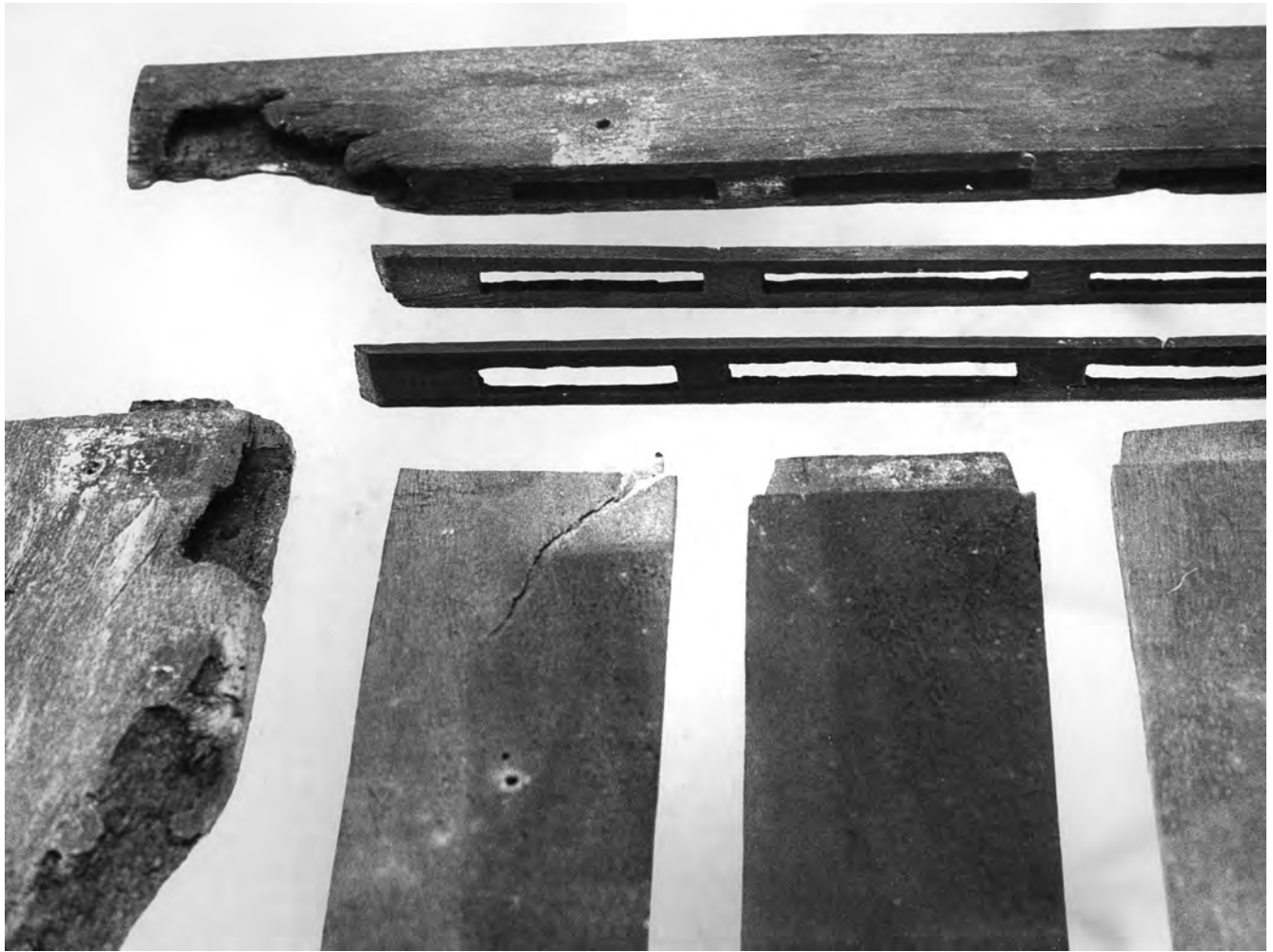


Plate 93. Chair fragments. 18th Dynasty. Tomb of Maket. Ashmolean Museum, Oxford. AN1890.859.
Photographic credit: Lorraine March-Killen.

Plate 94. Chair. 18th Dynasty. Metropolitan Museum of Art, New York. MMA 12.182.28. © *Metropolitan Museum of Art, Rogers Fund, 1912.*





Plate 95. Chair. 18th Dynasty. National Museums of Scotland, Edinburgh. 1956.106. © *National Museums Scotland*.



Plate 96. Chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62032, Carter No. 349. Burton Photograph p1293.
© Griffith Institute, University of Oxford.



Plate 97. Chair. Tomb of Tutankhamun.
Egyptian Museum, Cairo. JE 62029,
Carter No. 87. Burton Photograph p0148.
© Griffith Institute, University of Oxford.

Plate 98. Armchair (Reproduction).
Original in the tomb of Queen
Hetepheres I, Giza. Reproduction in the
Museum of Fine Arts, Boston. 38.957.
© 2017 Museum of Fine Arts, Boston.





Plate 99. Chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62033, Carter No. 39. Burton Photograph p0143.
© Griffith Institute, University of Oxford.



Plate 100. Ceremonial chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62030, Carter No. 351. Burton Photograph p1290. © Griffith Institute, University of Oxford.



Plate 101. Ceremonial chair. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62030, Carter No. 351. Burton Photograph p1291. © Griffith Institute, University of Oxford.



Plate 102. Gold throne. Tomb of Tutankhamun. Egyptian Museum, Cairo. JE 62028, Carter No. 91. Burton Photograph p0154.
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Chapter 6

Tables

From the earliest periods the table seems to have played a significant role in Egyptian religious practice. We have no evidence to suggest that ancient Egyptians sat at tables to eat; their use was to present offerings of food to the gods. A 2nd Dynasty stele at Helwan, for example, show the occupant seated opposite an offering table which has food placed upon it (Saad 1957). A fine example of an alabaster offering table is preserved in the National Museum, Copenhagen, 7496, and is dated as either 1st or 2nd Dynasty (diameter 345 mm, height 90 mm).

The earliest wood tables date back to the 1st Dynasty. One notable example is now in the Ägyptisches Museum, Berlin, ÄM 10772. The two tables described below were discovered by Petrie at Tarkhan during the 1911–1912 season of excavation.

1. LOW TABLE (PLATES 103, 104)

1st Dynasty. Tarkhan, grave 527.
Ashmolean Museum, Oxford. AN1912.603.
Height 56 mm, length 450 mm, width 280 mm.

This table is cut from a single board of wood, which has now badly cracked and is beginning to decay. The underside of this particular example is interesting for the feet are cut as two ridges from the solid block, one at each end (Plate 104). This table was discovered in grave 527 with nine jars which contained ash.

2. LOW TABLE (PLATES 105, 106 AND FIGURE 33)

1st Dynasty. Tarkhan, grave 136.
Manchester University Museum, Manchester. 5456.
Height 60 mm, length 480 mm, width 278 mm.
Petrie 1913: 25, pls. XI [23]–XII [7].

This table is not unlike the Oxford example (above) in design, but it is of much better quality. The underside has four separate legs which have been carved from the solid block (Plate 106). One end of this table has been purposely curved for some reason.

Used to support vases, or to keep food above the dusty floor, the small low table must have been common. Small stone tables were also popular, and two were discovered at Tarkhan, one in grave 1982 and the other in grave 136. Both in design are similar to the wooden tables.

The small table obviously remained a popular piece of furniture throughout the Dynastic period. A fragment of a similar small table from Kerma has been dated to the Egyptian Second Intermediate Period (Reisner 1923: 229, pl. 219). A later example is illustrated in the tomb of Rekhmira (TT 100), 18th Dynasty, Thebes (Davies 1943: pl. LXV).

By the 5th Dynasty the manufacture of jointed furniture made from accurately sawn boards became possible with the introduction of the pullsaw. In the Ägyptisches Museum, Berlin, is a small 5th Dynasty table, ÄM 16436. It is very finely made, being a simple frame design that is mortised and tenoned together that provides a low table height of 177 mm.

The 6th Dynasty painted reliefs on the walls of the thirty-two room mastaba tomb of Mereruka, at Saqqara, c. 2350 B.C., show an enormous collection of highly developed furniture, which includes tables and large carrying chests (Mereruka was Vizier to Teti I; see Duell 1938: *passim*).

The tables illustrated in this tomb show us several important new styles and developments which had occurred by the 6th Dynasty. Most noticeable is that large plain rectangular tables were being manufactured, and some of the illustrations show craftsmen working upon them, using them as workbenches. This is the first example where we can see tables being used for a secular purpose.

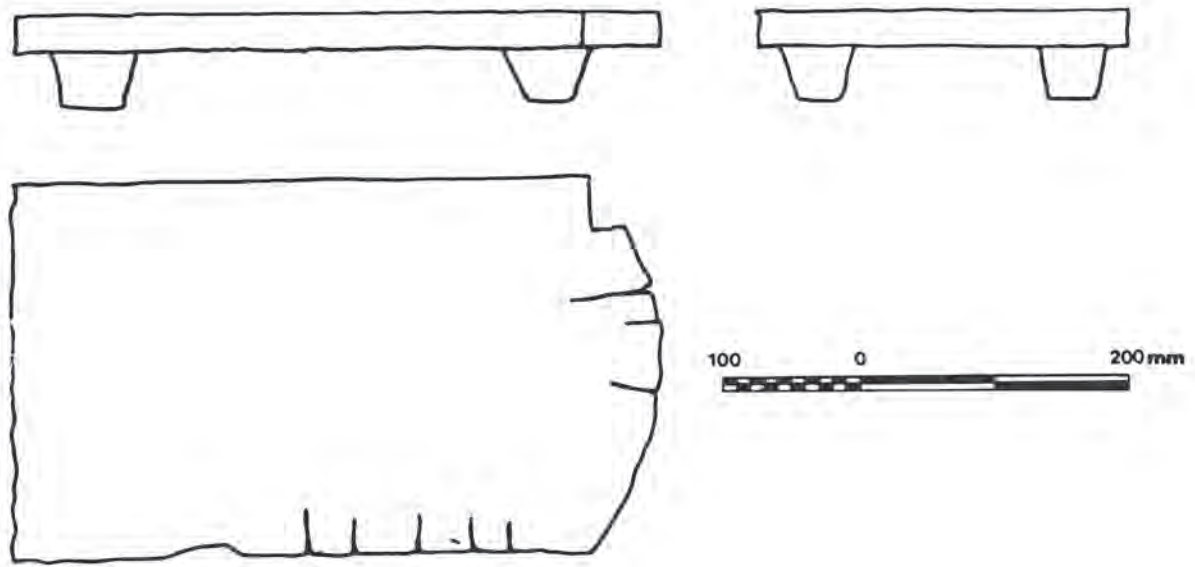


Figure 33. Table. Manchester University Museum, 1st Dynasty, 5456.

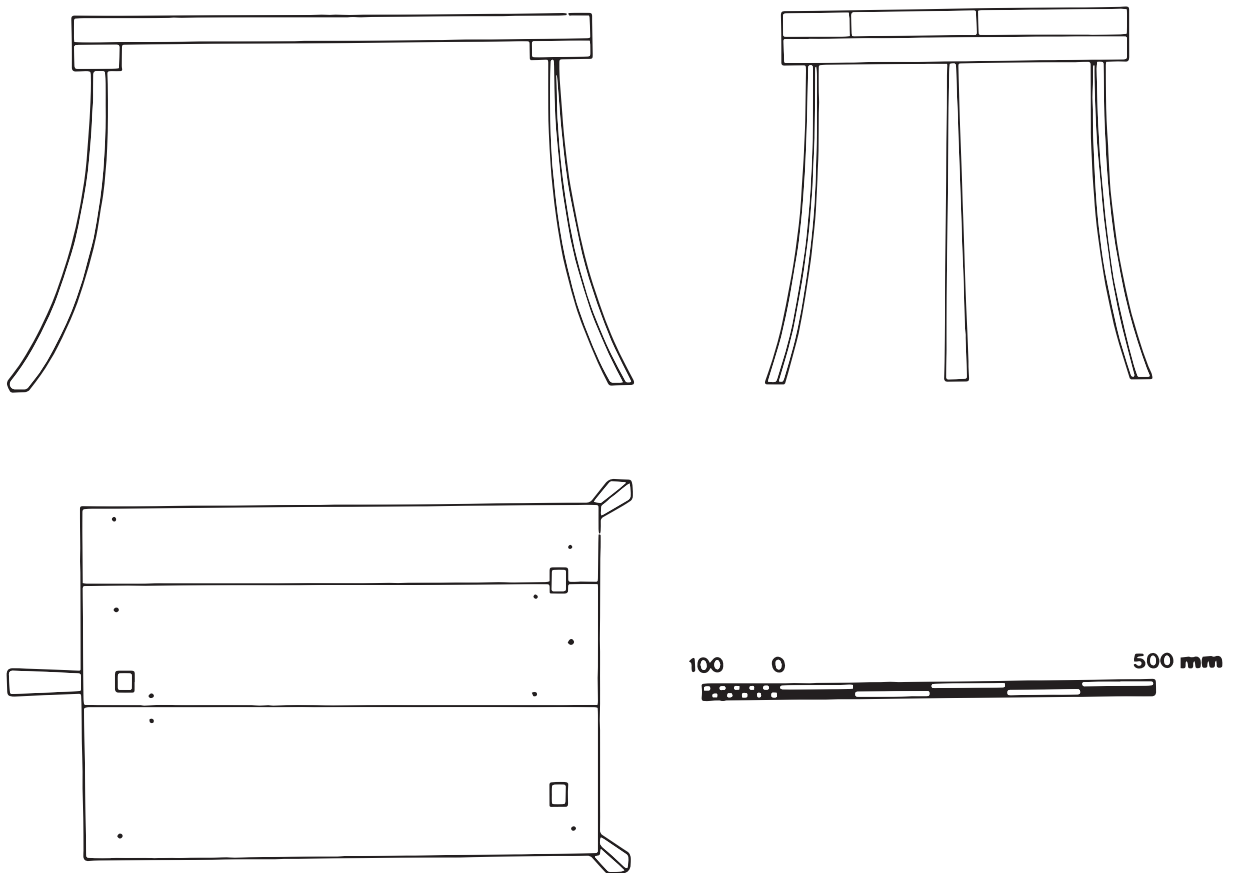


Figure 34. Table (Tomb of Perpaut). British Museum, London. EA 2469.

It is likely that such tables were beginning to be produced during the 3rd Dynasty. In the tomb of Hesyra, c. 2660 B.C. is a scene of what could be interpreted as the end elevation of a plain table. It shows clearly the legs, top rail, and stretcher of a table, or possibly a bed; whatever the case, it proves that the technology was available during the 3rd Dynasty to manufacture such furniture.

The 18th Dynasty

3. TABLE (PLATE 107)

Tomb of Kha.

Egyptian Museum, Turin. 8258.

Height 476 mm, length 749 mm, width 381 mm.

Schiaparelli 1927: 118, fig. 100, right; Baker 1966: 152, fig. 233, right.

From the tomb of the architect Kha, c. 1375 B.C. were discovered two almost identical tables, similar to those illustrated in the mastaba of Mereruka, (see above). The one illustrated (Plate 107) is constructed from plain sawn timber of rectangular section. The stretchers are mortised and tenoned then secured by dowels to the legs. The table's work surface is constructed of boards and was originally lightly gessoed, at each end is an inscription written in black paint set between pairs of black parallel lines. Both tables discovered in the tomb were laid with offerings of food.

In the tomb mastaba of Mereruka are illustrations of tables of a more elegant design, having a cavetto cornice moulding applied to the edges of the table top. Two very fine examples of this type are described below.

4. TABLE (PLATE 108)

17th or 18th Dynasty. El-Asasif.

Metropolitan Museum of Art, New York. MMA 14.10.5.

Height 450 mm, length 635 mm, width 311 mm.

Gift of the Earl of Carnarvon, 1914.

Baker 1966: 152, fig. 235.

The table with the cavetto cornice and torus moulding which edge the top seem to have been popular during the 17th and 18th Dynasties; being used for religious offerings. This particular example is very fine. The table top is veneered, as is most of the supporting frame; the veneer is very thick and covers the general construction. At the left corner joint below the moulding a large proportion of the veneer has broken away, revealing the heavy construction of the frame with two stout dowels. Between the moulding rail and the legs is an angle elbow bracket, which is encased by strips of lighter coloured wood, possibly artificially bent, and dowelled to the underside of the moulding rail and inside of the legs.

5. TABLE (PLATE 109).

18th Dynasty.

The Brooklyn Museum, New York. 37.41 E.

Height 320 mm, length 521 mm, width 255 mm.

Baker 1966: 152, fig. 236.

This second table which is slightly later is of a solid construction and is in very good condition. The table rails and stretchers are mortised, tenoned and secured by dowels to the slightly splayed legs. The thick table top, with its cavetto cornice moulding, is connected to the frame by a torus beading which is accurately mitred at the corners of the table and held in position by dowels placed at regular intervals.

6. TABLE (PLATE 110)

Tomb of Kha.

Egyptian Museum, Turin. 8432.

Length 787 mm, width 539 mm, height 298 mm.

Schiaparelli 1927: 118-120, fig. 103; Baker 1966: 118, fig. 165.

This table is of unusual design and construction, but undoubtedly styled from the tables with the cavetto cornice moulding previously described. One will notice that although the frame of this table is made from poles the mortised element of the joint is bossed to allow the shoulders of the tenon to sit squarely upon them. The workmanship of this particular table is good, and the material has been well finished.

7. THREE LEGGED TABLE (PLATES 111-113 AND FIGURE 34)

18th Dynasty.

British Museum, London. EA 2469.

Length 686 mm, width 460 mm, height 540 mm.

Baker 1966: 153, fig. 237.

The three legged table was not widely used in ancient Egypt until Hellenistic times although a few examples are illustrated in the private 18th Dynasty Tombs at Thebes (Davies 1930: pls. LVIII-LIX; Davies 1943: pl. L; Save-Söderbergh 1957: pl. XXII). Functionally it has the advantage over conventional four legged tables by being able to rest firmly on any type of floor. The table top of this example is constructed from three sawn boards, each held in position by two cross members, one at each end, which are secured together by dowels (for positions of dowels see Figure 34). The legs, which are curved, are cut from wood; the adze's slicing marks may be clearly seen. A mortise is cut in the table top and cross member below for the rectangular tenon of the leg to pass through. At one end is a single leg while at the other end are two legs situated close to the corners. Each joint is heavily

wedged from the top to make the union solid (Plate 112). The table was completely gessoed and painted, much of which has flaked from the wooden surface. It was painted as a picture (Plate 113) enclosed in a frame of three bands of colour. In a red basket is placed a cobra, which is delightfully painted in yellow-gold, representing the goddess Renenutet. In front of her is an offering table on which is placed food for the safe voyage of the deceased, who is seen to be Perpaut, from a long vertical inscription.

8. REED AND RUSH TABLE (PLATE 114)

Tomb of Kha.

Egyptian Museum, Turin. 8343.

Length 787 mm, width 539 mm, height 298 mm.

Schiaparelli 1927: 118, fig. 101, top; Baker 1966: 117, fig. 162b.

In private and public collections around the world there are very few examples of ancient Egyptian tables. Timber was so expensive that very few large tables were manufactured, apart from funerary furniture, for high ranking Egyptians. Surprisingly, no large tables were discovered in either Tutankhamun's tomb or that of Yuia and Thuiu.

It is therefore not surprising that we see during the 17th and 18th Dynasties the appearance of reed and rush furniture. There is a notable toilet chest which is housed in the Ägyptisches Museen, Berlin, ÄM 1177, which dates to Second Intermediate Period c. 1700 B.C. It was discovered at Western Thebes being part of the funerary goods placed with the burial of Queen Mentuhotep, wife of pharaoh Djehuti.

Reed and rush when dried are excellent materials to construct simple tables (Plate 114). Here it may be seen that the legs are made from four very stout stems of reed, braced with a lattice on the sides, and beneath the table with slightly thinner members which are firmly tied together with long flexible strands of rush. This structure was able to take substantial weight, for when it was discovered it was again laid with an offering of bread. The table top is made by laying strips of rush side by side and connecting them to the end frame of the table by three strips of rush, one in the centre and one at each end. These strips were bound around the rush top and secured below around the side reed stem of the frame, before being fastened about the next length of stiff rush.



Plate 103. Table. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.603. *Photographic credit: Lorraine March-Killen.*



Plate 104. Table. Tarkhan. 1st Dynasty. Ashmolean Museum, Oxford. AN1912.603. *Photographic credit: Lorraine March-Killen.*



Plate 105. Table. Tarkhan. 1st Dynasty. Manchester University Museum, Manchester. 5456. *Photographic credit: Lorraine March-Killen.*



Plate 106. Table. Tarkhan. 1st Dynasty. Manchester University Museum, Manchester. 5456. *Photographic credit: Lorraine March-Killen.*



Plate 107. Table. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8258. © *Egyptian Museum, Turin*.



Plate 108. Table. 17th or 18th Dynasty. Metropolitan Museum of Art, New York. MMA 14.10.5. © *Metropolitan Museum of Art, Gift of the Earl of Carnarvon, 1914*.



Plate 109. Table. 18th Dynasty. Brooklyn Museum, New York. 37.41E. © *Brooklyn Museum, New York.*



Plate 110. Table. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8432. © *Egyptian Museum, Turin.*



Plate 111. Three-legged table. British Museum, London. EA 2469. *Photographic credit: Lorraine March-Killen.*



Plate 112. Three-legged table. British Museum, London. EA 2469. *Photographic credit: Lorraine March-Killen.*

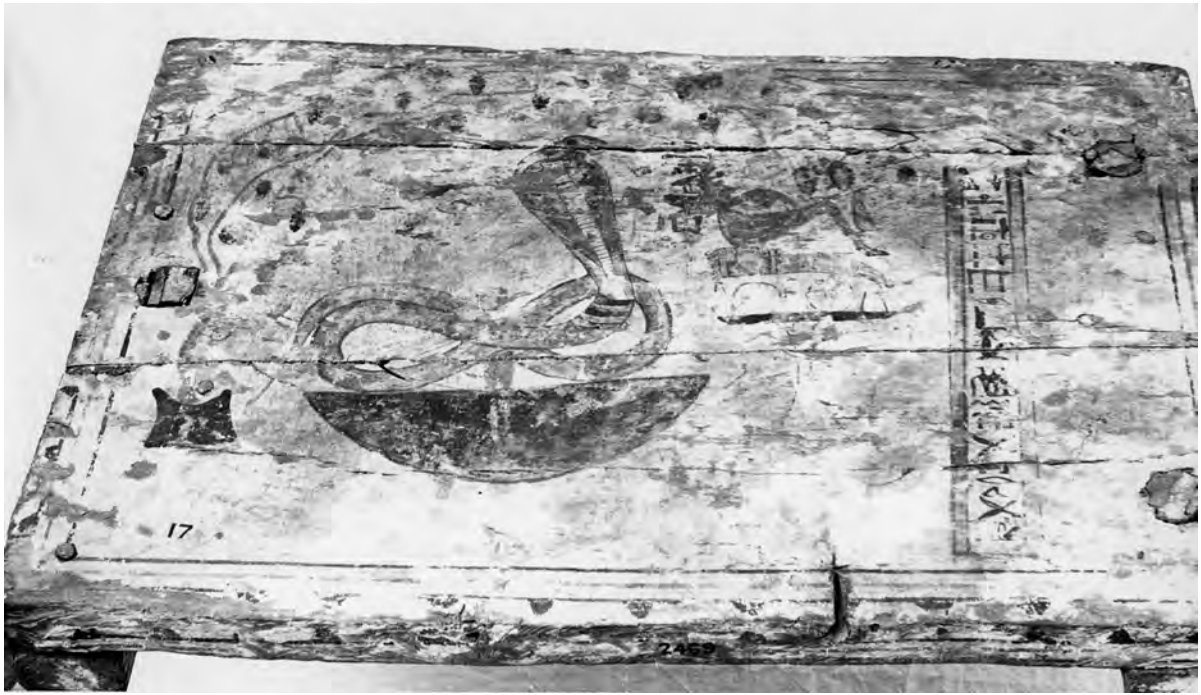


Plate 113. Three-legged table. British Museum, London. EA 2469. *Photographic credit: Lorraine March-Killen.*



Plate 114. Reed and rush table. Tomb of Kha. New Kingdom. Egyptian Museum, Turin. 8343. © *Egyptian Museum, Turin.*

Chapter 7

Vase Stands

Old Kingdom

From the tomb of Mereruka, which dates to the 6th Dynasty, we may see two methods by which vessels were displayed or stored during the Old Kingdom. The first (Figure 35) shows a low plain rectangular table, the simple elements of which are mortised and tenoned together. The top would have been made from a single board. (A very fine example of such a vase stand is now in the Ägyptisches Museum, Berlin. ÄM 16436). Another example from the Old Kingdom shows the display of large flat-bottomed vessels. The construction of this stand (Figure 36), is similar to the previous table, but with the top removed and battens placed across the stretchers to support the vases. Such stands are also commonly found in the Middle Kingdom and New Kingdom reliefs at Thebes. A good set is illustrated in the tomb of Rekhmira, (TT 100) at Thebes, which has two small wooden stands with splayed legs, similar to the taller type of vase stand; in each stand is cradled a single large round vessel (Davies 1943: pl. XXXVIII). With the manufacture of round-bottomed vases it became necessary to support them. This was most commonly achieved by stone, alabaster or pottery vase stands, although wooden supports were used from an early stage.

1. VASE SUPPORT (PLATE 115)

Old Kingdom.

Musée des Beaux-Arts de Limoges. E. 958.

Height 114 mm.

This early wooden vase support is designed to support a round bottomed vessel in a finely carved wooden dish, which is suspended by three well worked legs. The cutting marks on them from adze and chisel are clearly shown.

18th Dynasty

2. VASE STAND (PLATES 116, 117 AND FIGURE 37)

18th Dynasty.

British Museum, London. EA 2470.

Height 680 mm, length 465 mm, width 470 mm.

Baker 1966: 153, fig. 240.

With the increase of imported timber into Egypt by the Middle Kingdom, the tall elevated vase stand, which uses very little wood, became a popular piece of furniture and is widely illustrated on stelae and in private tomb scenes of the Middle and New Kingdoms. A fine example is depicted in the tomb of Kharuef, (TT 192) at Thebes, where a procession of Princesses who are making an offering walk past eight vase stands, each supporting a vase (Baker 1966: 153, fig. 243). Such stands, with slightly splayed legs, are now preserved in the Egyptian Museum, Cairo (JE 35207A, JE35207B and JE35207C). However, this example, in the British Museum is of exceptional design and quality (Figure 37).

As with older examples, the prime design element is the method by which the round bottomed vase is held in position on the vase stand. In this example it is achieved by an open tapered collar which is attached to a board of wood which is part of the vase support. Attached to each side of this are two smaller and thinner elements which together with the centre plank and collar makes a square vase table surface. These three elements are connected to the side rails of the vase stand by horizontally penetrating dowels. These are covered by a thick layer of gesso.

The general construction of this vase stand is very simple; the four splayed legs are held apart by rails and

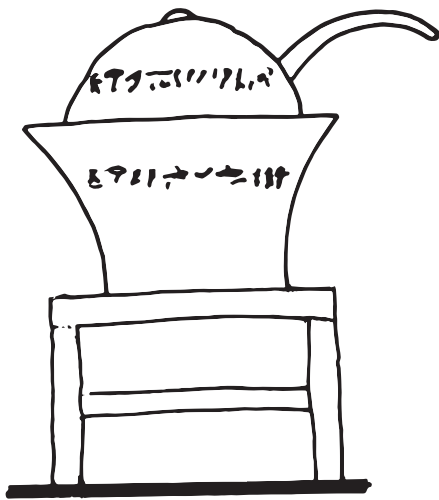


Figure 35. Vase stand. (Tomb painting, Tomb of Mereruka, Saqqara, 6th Dynasty).

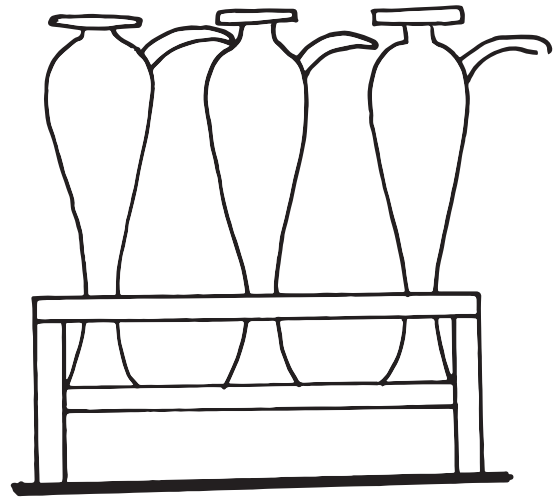


Figure 36. Vase stand. (Tomb painting, Tomb of Mereruka, Saqqara, 6th Dynasty).

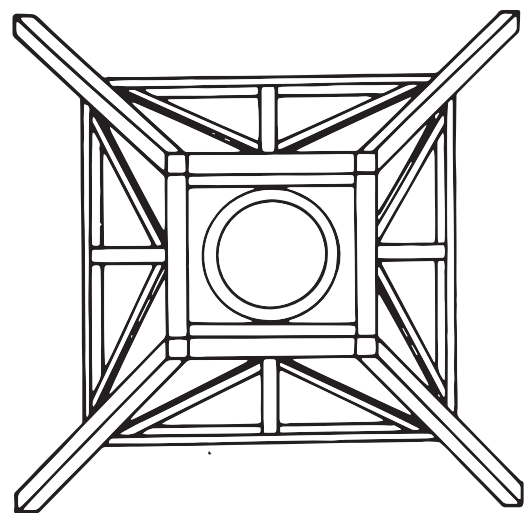
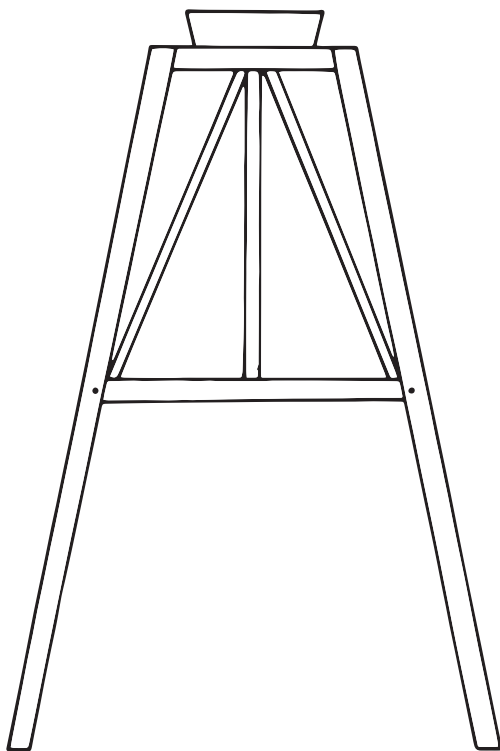


Figure 37. Vase stand. British Museum, London. EA 2470.

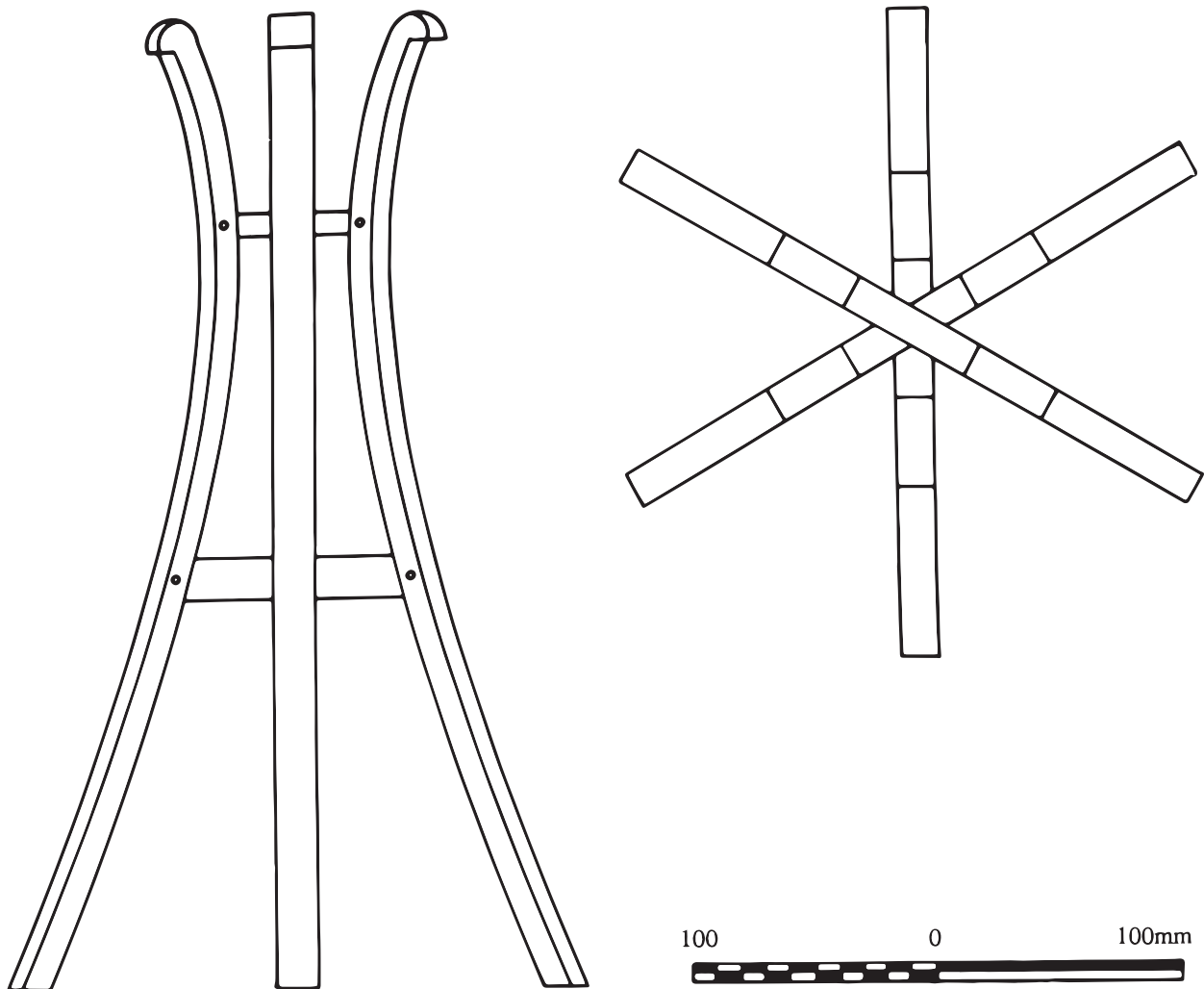


Figure 38. Vase stand. British Museum, London. EA 2471.

stretchers, and these are mortised and tenoned with a fixing dowel (Plate 117). The lattice members of the vase stand offer little bracing to the structure, for they are simply wedged and butt jointed into position; there are still small traces of a dark brown matter, which possibly could be glue, on some areas of the stretchers.

The complete vase stand is gessoed, especially the collar and vase support on which the gesso has been applied heavily, and is not decorated in any way. On the main structure a yellow base colour has been applied over the gesso, onto which have been painted small dark green, light green and red rectangles of decoration.

3. SMALL VASE STAND (PLATE 118 AND FIGURE 38)

18th Dynasty.

British Museum, London. EA 2471.

Height 382 mm, width at base 252 mm.

Baker 1966: 153, fig. 241.

This vase stand is designed to hold a small vase by supporting it between the points of six curved uprights. These uprights are finely sawn, and each element is made from at least two pieces carefully butt jointed together. These joints occur in different places on most of the legs, and are heavily gessoed to disguise this joint. The most interesting feature in the construction of this particular vase stand is the method by which the three connecting stretchers are jointed together. Each stretcher is mortised and tenoned with a securing dowel into the curved upright. The three members all cross each other at one place in a very complicated joint, which can be considered as a triple cross halving where the angle between opposing members is 60°. As with tables it is likely that vase stands

were constructed from reed and rush. In the tomb of Meryre II at Amarna, c. 1360 B.C., are depicted a number fragile stands with vessels upon them which are being carried by servants. From the tomb of Kha, c. 1375 B.C., was also discovered a reed and rush stand. Although in general it appears to be a vase stand, it had no facility for holding a round bottomed vase. It may have been used to

display precious or valuable objects. This is very much like the stand which is inlaid on the back support of the Gold Throne of Tutankhamun (Plate 102). This shows a green stand, which possibly resembles a reed and rush construction, on which is arranged a collar of marvellous colour. Unfortunately the Kha stand was lost during the 1939–1945 war.



Plate 115. Vase support. Old Kingdom. Musée des Beaux-Arts de Limoges. E 958. © *Musée des Beaux-Arts de Limoges*.



Plate 116. Vase stand. 18th Dynasty. British Museum, London. EA 2470. *Photographic credit: Lorraine March-Killen.*



Plate 117. Vase stand. 18th Dynasty. British Museum, London. EA 2470. *Photographic credit: Lorraine March-Killen.*



Plate 118. Vase stand. 18th Dynasty. British Museum, London. EA 2471. *Photographic credit: Lorraine March-Killen.*

Catalogue of Museum Collections

AUSTRIA: KUNSTHISTORISCHES MUSEUM, VIENNA

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
910	Armchair fragment	Light soft wood	N.K.	h. 277; w. 135		
918	Armchair fragment	Light soft wood	N.K.	h. 272; w. 110		
6048	Footstool fragment	Light hard wood	N.K.	l. 290; w. 78	V.II. 69	
6128	Bed	Dark hard wood	N.K.	l. 1,190; w. 560; h. 180	V.I. 35	
8565	Lion's head from a bed	Light soft wood	N.K.	h. 310; w. 220; d. 170		
6047	Bed leg in lion form	Light hard wood	N.K.	h. 365; w. 117		

BELGIUM: ROYAL MUSEUMS, CINQUANTENAIRE MUSEUM, BRUSSELS

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
8137	Box	Sycomore fig		l. 606; w. 310; h. 370		
1838	Box	Sycomore fig		l. 660; w. 450; h. 570		
4178	Leg	Ivory	2nd Dynasty	l. 150; w. 35		
4179	Leg	Ivory		l. 165; w. 37		
2411	Lattice stool seat	Wood	18th Dynasty	l. 440; w. 405; d. 102	V.III. 36	
2416	Round leg	Wood	18th Dynasty	l. 287; dia. 37		
2409	Legs of stool	Wood	18th Dynasty	l. 350; w. 445; h. 350		
2415	Round leg	Wood	N.K.	l. 180; dia. 50		
7667	Small box	Wood and ivory	18th Dynasty	l. 60; w. 52; h. 56		
156	Leg	Wood and ivory	1st Dynasty	h. 68; w. 38; d. 20		
2405	Stool frame	Wood	18th Dynasty			
4503	Bed from Tarkhan	Wood	1st Dynasty	l. 1,920; w. 860; h. 350		
4504	Bed from Tarkhan	Wood	1st Dynasty	l. 1,171; w. 640; h. 360		

CANADA: ROYAL ONTARIO MUSEUM, TORONTO

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
910.37.1	Wooden leg from a chair or stool	Wood	O.K.	h. 295		
910.37.2	Wooden leg from a chair or stool	Wood		h. 337		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
910.37.3	Wooden leg from a chair or stool	Wood		h. 362		
910.37.4	Wooden leg from a chair or stool	Wood	O.K.	h. 266		
910.37.5	Wooden leg from a chair or stool	Wood		h. 289		
910.37.6	Wooden leg from a chair or stool	Wood	N.K.	h. 292		
910.37.7	Wooden leg from a chair or stool	Wood		h. 212		
910.37.8	Wooden leg from a chair or stool	Wood		h. 133		
910.37.9 A and B	Painted piece of furniture	Wood	R.P.	A: h. 324 B: h. 330		
910.37.10	Section of woven leatherwork	Leather	E.D.P.	w. 57; l. 133		
910.37.11	Painted wooden lion's head	Wood		h. 70; w. 635; d. 855		
910.37.12	Painted wooden lion's head	Wood		h. 76; w. 95; d. 101		
910.37.13	Painted wooden lion's head	Wood		h. 57; w. 635; d. 101		
910.37.14	Wooden stool	Wood	E.D.P.	w. 482; l. 826; h. 260	V.I. 47	
910.37.15	Base of a painted chair	Wood	N.K.	h. 285; w. 610; d. 432		
910.37.16	Four legged stool	Wood	N.K.	h. 171; w. 375; d. 368		
914.2.1	Folding stool	Wood	18th or 19th Dynasty	l. 610	V.I. 61	
910.37.17	Folding stool	Wood	M.K.	h. 470; w. 482; l. 508	V.I. 56	

DENMARK: ANTIKSAMLINGEN, NATIONAL MUSEET, COPENHAGEN

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
7496	Alabaster table	Alabaster	1st or 2nd Dynasty	dia. 345; h. 90		
12133	Leg in the shape of a lion's leg	Wood	N.K.	h. 198		

EGYPT: EGYPTIAN MUSEUM, CAIRO

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
JE 2029	Lattice stool	Wood	N.K.	h. 350		
JE 2030	Three legged stool	Wood	N.K.	h. 320; l. 360		
JE 3318	Shrine shaped box	Wood	N.K.	h. 70; l. 85		
JE 3332	Four legged stool	Wood and reed	N.K.	h. 140		
JE 14034	Three legged stool	Wood	N.K.	h. 200		
JE 26608	Stool	Wood		h. 185; l. 300; w. 390		
JE 26609	Low dishd table	Wood		h. 85; l. 360; w. 390		
JE 26610	Low table	Wood		h. 115; l. 460; w. 378		
JE 26677	Low dishd table	Wood		h. 100; l. 380; w. 280		
JE 27215	Box	Wood		h. 140; l. 240; w. 250		
JE 27255 A	Round legged stool, <i>Sennedjem</i>	Wood	19th Dynasty	h. 248; d. 370; w. 356		V.III. 18
JE 27255 B	Round legged stool, <i>Sennedjem</i>	Wood	19th Dynasty	h. 320; d. 360; w. 365		
JE 27256	Chair, <i>Sennedjem</i>	Painted wood	19th Dynasty	h. 870; d. 470; w. 390		
JE 27257	Table, <i>Sennedjem</i>	Wood	19th Dynasty	l. 590; h. 330; d. 490		V.III. 26
JE 27288	Folding stool, <i>Sennedjem</i>	Wood	19th Dynasty	h. 300; l. 670; w. 300		
JE 27289	Low stool with animal legs, <i>Sennedjem</i>	Wood	19th Dynasty	h. 125; l. 300; w. 340		
JE 27290	Lattice stool, <i>Mosi</i>	Wood	19th Dynasty	h. 320; w. 390		
JE 27291	Lattice stool, <i>Sennedjem</i>	Wood	19th Dynasty	h. 340; l. 480; w. 300		V.III. 20
JE 27271	Box, <i>Iyneferti</i>	Wood	19th Dynasty	l. 280; w. 207; h. 130		
JE 29266	Chair	Painted wood	N.K.	h. 800		
JE 29270	Low stool with plain legs	Wood		h. 120; l. 340		
JE 29275	Folding stool	Wood	N.K.	h. 380		
JE 30008	Three legged stool	Wood	N.K.	l. 750; w. 480		
JE 30009	Round legged stool	Wood	N.K.			
JE 30010	Three legged stool	Wood	N.K.	h. 210; l. 360; w. 400		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
JE 32849	Box	Wood		l. 225		
JE 35207A	Vase stand	Wood	N.K.			
JE 35207B	Vase stand	Wood	N.K.			
JE 35207C	Vase stand	Wood	N.K.			
JE 41307	Three legged stool	Wood		h. 200		
JE 43164	Chair	Wood	N.K.	h. 680		
JE 28989	Stool	Reed and rush	N.K.	h. 450; l. 440		
JE 62057	Offering table, <i>Tutankhamun</i>	Wood	N.K.	l. 362; w. 253; h. 244		V.III. 27
JE 43165	Stool with animal legs	Wood		h. 160; l. 380; w. 340		
JE 46578	Table	Wood		h. 150; l. 310; w. 170		
JE 47590	Table	Wood	1st Dynasty Tarkhan	h. 36; l. 236		
JE 47607	Leg of bed	Wood, turned	R.P.	h. 830; dia. 180		
JE 72030	Curtain box, Queen <i>Hetepheres I</i>	Wood, gold foil and faience	4th Dynasty	l. 1,575; w. 215; h. 185	V.II. 3	V.II. 8
JE 53261	Bed, Queen <i>Hetepheres I</i>	Wood and gold foil	4th Dynasty	h. 436; l. 1,770; w. 975	V.I. 36	V.I. 11–12
JE 53263	Arm chair, Queen <i>Hetepheres I</i>	Wood and gold foil	4th Dynasty	h. 795; w. 707; d. 660	V.I. 98	V.I. 31
JE 53265	Bracelet box, Queen <i>Hetepheres I</i>	Wood and gold foil	4th Dynasty	l. 419; h. 218; w. 337	V.II. 4	
JE 57711	Bed canopy, Queen <i>Hetepheres I</i>	Wood and gold foil	4th Dynasty	h. 2,215; l. 3,137; w. 2,588	V.I. 44	V.I. 18
JE 53723	Small round legged stool	Wood	N.K.			
JE 55816	Furniture leg	Wood		l. 140		
JE 55817	Couch leg	Wood	R.P.	l. 570		
JE 55818	Couch leg	Wood, turned	R.P.	l. 790		
JE 55819	Table leg	Wood, turned	Late 2nd century A.D.	l. 509		
JE 55820	Thin leg	Wood, turned	Late 3rd century A.D.	l. 740		
JE 56353	Latrine seat	Wood, painted white				
JE 57332	Box with fine inlay	Ivory	18th Dynasty	h. 75; l. 193		
JE 61444 Carter No. 261	Box, <i>Tutankhamun</i>	Wood, painted gilt	18th Dynasty	l. 2,700; w. 520		
JE 61445 Carter No. 32	Box, <i>Tutankhamun</i>	Wood with ebony and ivory inlay	18th Dynasty	h. 635; w. 605; l. 830	V.II. 43	V.II. 60 V.II. 61

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
JE 61446 Carter No. 403	Box, <i>Tutankhamun</i>	Wood and gilt	18th Dynasty	h. 700; w. 435; d. 400		V.II. 67
JE 61447 Carter No. 388	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	w. 435; d. 400; h. 680		
JE 61448 Carter No. 56	Box, <i>Tutankhamun</i>	Wood and ivory	18th Dynasty	h. 450; w. 270; d. 220	V.II. 52	V.II. 66
JE 61449 Carter No. 54ddd	Box, <i>Tutankhamun</i>	Ivory and gold	18th Dynasty	h. 132; l. 156; w. 122	V.II. 54	V.II. 68
JE 61450 Carter No. 550	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 650; w. 575; h. 545		
JE 61451 Carter No. 587	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 530; w. 367; h. 334		
JE 61452 Carter No. 54	Box, <i>Tutankhamun</i>	Wood with panels painted red	18th Dynasty	h. 390; l. 555; w. 390		V.II. 73
JE 61453 Carter No. 330	Box, <i>Tutankhamun</i>	Wood, lid painted white	18th Dynasty	l. 705; w. 500; h. 460		
JE 61454 Carter No. 50	Box, <i>Tutankhamun</i>	Wood, painted white, with ebony	18th Dynasty	h. 490; l. 1,360; w. 360	V.II. 45	V.II. 71
JE 61455 Carter No. 68	Box, <i>Tutankhamun</i>	Wood, painted white	18th Dynasty	h. 242; d. 240; w. 300	V.II. 56	V.II. 70
JE 61494 Carter No. 115	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 522; w. 270; h. 305	V.II. 50	V.II. 64
JE 61456 Carter No. 585	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	h. 275; l. 652; w. 334		V.II. 72
JE 61457 Carter Nos Lid 615 Box 547	Wig box, <i>Tutankhamun</i>	Wood and faience	18th Dynasty	h. 500; d. 400; w. 400	V.II. 63	
JE 61458 Carter No. 271	Box, <i>Tutankhamun</i>	Wood with ivory inlay	18th Dynasty	h. 424; l. 487; w. 450	V.II. 55	V.II. 69
JE 61461 Carter No. 268	Box, <i>Tutankhamun</i>	Wood, ivory and ebony	18th Dynasty	h. 220; l. 262; w. 228	V.II. 53	
JE 61462 Carter No. 267	Box, <i>Tutankhamun</i>	Redwood, ivory and ebony	18th Dynasty	h. 288; l. 454; w. 298	V.II. 51	
JE 61463 Carter Nos: Lid: 270b Box 269a	Box, <i>Tutankhamun</i>	Wood, ivory and ebony	18th Dynasty	l. 209		
JE 61464 Carter No. 453	Box, <i>Tutankhamun</i>	Wood, ivory and ebony	18th Dynasty	l. 125; w. 80; d. 55		
JE 61465 Carter No. 14a	Box, <i>Tutankhamun</i>	Wood, ivory and ebony	18th Dynasty	l. 110, w. 83; h. 68		V.II. 78
JE 61466 Carter No. 40	Box, <i>Tutankhamun</i>	Alabaster	18th Dynasty	h. 240; w. 170; l. 330	V.II. 48–49	V.II. 63
JE 61467 Carter No. 21	Box, <i>Tutankhamun</i>	Painted wood	18th Dynasty	h. 440; l. 610; w. 430	V.II 44–45	

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
JE 61468 Carter No. 101	Box, <i>Tutankhamun</i>	Wood, ebony and paint	18th Dynasty	l. 900; w. 630; h. 770	V.II. 46	V.II. 62
JE 61470 Carter No. 272	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 664; w. 451; h. 530		
JE 61471 Carter No. 270	Box, <i>Tutankhamun</i>	Wood, painted white	18th Dynasty	l. 514; w. 256; h. 456		V.II. 65
JE 61472 Carter No. 279	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 680; h. 510; w. 483		
JE 61473 Carter No. 315	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 603; w. 420; h. 520		
JE 61474 Carter No. 316	Box, <i>Tutankhamun</i>	Wood, painted yellow	18th Dynasty	h. 500; l. 605; w. 423	V.II. 60	
JE 61475 Carter No. 317	Box, <i>Tutankhamun</i>	Wood, painted yellow	18th Dynasty	l. 610; w. 425; h. 500		
JE 61476 Carter No. 44	Box, <i>Tutankhamun</i>	Wood	18th Dynasty	h. 326; l. 488; w. 339	V.II. 59	V.II. 75
JE 61477 Carter Nos Box 551 Lid 540	Box, <i>Tutankhamun</i>	Wood and ivory	18th Dynasty	l. 720; w. 455; h. 555	V.II. 57–58	V.II. 74
JE 61478 Carter Nos Box 594 Lid 575	Box, <i>Tutankhamun</i>	Wood, ivory and ebony	18th Dynasty	l. 290; w. 260; h. 165		
JE 61479 Carter Nos Box 493 Lid 494	Box, <i>Tutankhamun</i>	Wood, ivory and ebony	18th Dynasty	h. 165; l. 283; w. 252		
JE 61480 Carter No. 43	Box, <i>Tutankhamun</i>	Wood, ivory and ebony	18th Dynasty	l. 330; w. 295; h. 170		V.II. 76
JE 61496 Carter No. 241bis	Perfume box, <i>Tutankhamun</i>	Wood, silver and glass	18th Dynasty	h. 160; d. 43; w. 88	V.II. 64	
JE 61497 Carter No. 267c	Box cover, <i>Tutankhamun</i>	Gold and glass	18th Dynasty			
JE 61498 Carter No. 54hh	Box cover, <i>Tutankhamun</i>	Wood and glass	18th Dynasty	l. 100; w. 70		
JE 61500a.b Carter No. 1k	Box cover, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 580; w. 35		
JE 61502 Carter No. 335	Bowcase, <i>Tutankhamun</i>	Wood	18th Dynasty			
JE 62014 Carter No. 466	Bed, <i>Tutankhamun</i>	Wood and gold sheet	18th Dynasty	h. 690; l. 1,750; w. 835	V.I. 41	
JE 62015 Carter No. 377	Bed, <i>Tutankhamun</i>	Wood and gold sheet	18th Dynasty	h. 711; l. 1,805; w. 795		
JE 62016 Carter No. 47	Bed, <i>Tutankhamun</i>	African ebony	18th Dynasty	h. 749; l. 1,840; w. 901	V.I. 40	
JE 62017 Carter No. 80	Bed, <i>Tutankhamun</i>	Wood, painted white	18th Dynasty	h. 631; l. 1,815; w. 680	V.I. 39	

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
JE 62018 Carter No. 586	Bed (folding), <i>Tutankhamun</i>	Wood and bronze	18th Dynasty	h. 495; l. 1,790; w. 680	V.I. 42–43	V.I. 15–17
JE 62019 Carter No. 64	Bed support, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 1,112		
JE 62028 Carter No. 91	Throne, <i>Tutankhamun</i>	Wood, gold sheet, glass and stone	18th Dynasty	h. 1,040; w. 530; d. 645	V.I. 102	V.I. 32
JE 62029 Carter No. 87	Chair, <i>Tutankhamun</i>	Cedar	18th Dynasty	h. 960; w. 475; d. 510	V.I. 97	
JE 62030 Carter No. 351	Chair, <i>Tutankhamun</i>	Wood and ivory	18th Dynasty	h. 1,020; w. 580; d. 448	V.I. 100–101	
JE 62031 Carter No. 82	Chair, <i>Tutankhamun</i>	Ebony and papyrus	18th Dynasty	h. 1,010; w. 500; d. 560		
JE 62032 Carter No. 349	Chair, <i>Tutankhamun</i>	Painted wood	18th Dynasty	h. 730; d. 390; w. 345	V.I. 96	
JE 62033 Carter No. 39	Chair (child's), <i>Tutankhamun</i>	Wood, ivory and ebony	18th Dynasty	h. 710; w. 370; d. 391	V.I. 99	
JE 62034 Carter No. 457	Chair fragment, <i>Tutankhamun</i>	Linen and papyrus	18th Dynasty			
JE 62035 Carter No. 83	Imitation folding stool, <i>Tutankhamun</i>	Ebony and ivory	18th Dynasty	h. 342; l. 470; w. 317	V.I. 64	
JE 62036 Carter No. 140	Folding stool, <i>Tutankhamun</i>	Wood, ivory, ebony, gold and leather	18th Dynasty			
JE 62037 Carter No. 139	Folding stool, <i>Tutankhamun</i>	Wood, ivory, ebony, gold and leather	18th Dynasty			
JE 62038 Carter No. 467	Stool, <i>Tutankhamun</i>	Wood, painted white with gold	18th Dynasty	h. 450; w. 450; d. 431	V.I. 78	
JE 62039 Carter No. 78	Stool, <i>Tutankhamun</i>	Wood and ivory	18th Dynasty	h. 345; d. 350; w. 338		
JE 62040 Carter No. 84	Lattice stool, <i>Tutankhamun</i>	Wood, painted white	18th Dynasty	h. 230; w. 333		
JE 62041 Carter No. 81	Lattice stool, <i>Tutankhamun</i>	Wood, ebony and ivory	18th Dynasty	h. 305; w. 275; d. 320	V.I. 77	
JE 62042 Carter No. 149	Stool, <i>Tutankhamun</i>	Wood	18th Dynasty	h. 415		
JE 62043 Carter No. 412	Three legged stool, <i>Tutankhamun</i>	Wood, painted white	18th Dynasty	h. 290; w. 431	V.I. 71	
JE 62044 Carter No. 511	Footstool/box, <i>Tutankhamun</i>	Wood and gold foil	18th Dynasty	h. 205; l. 342	V.II. 10	
JE 62045 Carter No. 378	Footstool, <i>Tutankhamun</i>	Wood, ivory and ebony inlay	18th Dynasty	h. 77; l. 587; w. 320	V.II. 71	
JE 62047 Carter No. 30	Footstool, <i>Tutankhamun</i>	Wood, gesso and glass inlay	18th Dynasty	l. 523; w. 290; h. 106	V.II. 70	
JE 64048 Carter No. 88	Footstool, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 510; w. 282; h. 112		V.II. 85

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
JE 62049 Carter No. 442b	Footstool, <i>Tutankhamun</i>	Wood, gesso and faience	18th Dynasty	l. 337; w. 181; h. 44		
JE 62050 Carter No. 592	Footstool, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 345; w. 200; h. 35		
JE 62051 Carter No. 67a	Footstool, <i>Tutankhamun</i>	Wood and ivory	18th Dynasty	l. 353; w. 190; h. 67		
JE 62046 Carter No. 90	Footstool, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 635; w. 370; h. 130		
JE 62052 Carter No. 92	Footstool, <i>Tutankhamun</i>	Wood, ebony and ivory	18th Dynasty	l. 369; w. 216; h. 57	V.II. 72	V.II. 86
JE 62053 Carter No. 442e	Footstool, <i>Tutankhamun</i>	Wood, ebony and ivory	18th Dynasty	l. 357; w. 205; h. 33		
JE 62054 Carter No. 414	Footstool, <i>Tutankhamun</i>	Wood	18th Dynasty	l. 305		
JE 62055 Carter No. 613	Footstool, <i>Tutankhamun</i>	Wood	18th Dynasty	h. 430; w. 250; h. 70		
JE 69066 GC 51108	Bed, <i>Yuia and Thuiu</i>	Painted wood	18th Dynasty	h. 580; l. 1,714; w. 690		
JE 69067 GC 51109	Bed, <i>Yuia and Thuiu</i>	Wood and silver	18th Dynasty	h. 610; l. 1,760; w. 700		
JE 69068 GC 51110	Bed, <i>Yuia and Thuiu</i>	Wood and gilt	18th Dynasty	h. 780; l. 1,780; w. 780		
JE 69069 GC 51111	Chair, <i>Yuia and Thuiu</i>	Wood	18th Dynasty	h. 595; l. 370; w. 400		
JE 69071 GC 51112	Chair, <i>Yuia and Thuiu</i>	Wood	18th Dynasty	h. 615; w. 380; d. 410		
JE 69072 GC 51113	Chair, <i>Yuia and Thuiu</i>	Wood	18th Dynasty	h. 770; w. 520; d. 540		
JE 69073 GE 51114	Box, <i>Yuia and Thuiu</i>	Wood	18th Dynasty	h. 150; l. 380; w. 300		V.II. 59
JE 69074 GC 51115	Box, <i>Yuia and Thuiu</i>	Wood	18th Dynasty	h. 330; l. 457; d. 340		
JE 69075 GC 51116	Box, <i>Yuia and Thuiu</i>	Wood and plaster	18th Dynasty	h. 330; l. 500; w. 340		
JE 69077 GC 51117	Jewel box; <i>Yuia and Thuiu</i>	Wood and plaster	18th Dynasty	h. 510; l. 530; d. 420		V.II. 58
JE 69078 GC 51118	Jewel box, <i>Yuia and Thuiu</i>	Wood and plaster	18th Dynasty	h. 410; l. 385; d. 268		V.II. 57
JE 86000	Wooden stool, miniature	Sycomore fig	P.P.	h. 40; l. 97; w. 95		
JE 86001	Stool, miniature	Sycomore fig	P.P.	h. 30; l. 98; w. 50		
JE 86002	Stool, miniature	Sycomore fig	P.P.			
JE 86003	Chair, miniature	Sycomore fig	P.P.	h. 112; l. 60; w. 55		
JE 86004	Table, miniature	Sycomore fig	P.P.	h. 45; l. 63; w. 63		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
JE 92967	Box	Wood	M.K.	h. 450; l. 1,350; w. 85		
JE 92968	Box	Wood	M.K.	h. 490; l. 770; w. 680		
26 11 —+— 26 6	Chair	Wood	N.K.			
JE 61490 Carter No. 269	Box (cartouche shape), <i>Tutankhamun</i>	Wood	18th Dynasty	l. 635; w. 302; h. 321	V.II. 61	
JE 61495 Carter Nos 79 (box) and 574 (lid)	Box (curved sides), <i>Tutankhamun</i>	Wood	18th Dynasty	w. 371; d. 327; h. 280	V.II. 62	V.II. 77

FRANCE: BORELY MUSEUM, MARSEILLE

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
281	Box	Wood	12th Dynasty	h. 490; l. 440		
287	Chair	Wood	20th Dynasty	l. 330; h. 440		
288	Folding stool	Wood	20th Dynasty	h. 330; l. 450		
462	Seat	Wood		h. 220; d. 120		

FRANCE: MUSÉE DES BEAUX-ARTS DE LIMOGES, LIMOGES

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
E. 958	Vase stand (three legged)	Wood	O.K.	h. 114	V.I. 115	

GERMANY: STAATLICHE MUSEEN ZU BERLIN, ÄGYPTISCHES MUSEUM

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
ÄM 9592	Bed frame	Wood				
ÄM 13888	Stool with turned legs	Wood				
ÄM 14601	Small box	Wood			V.II. 1	
ÄM 107772	Low table	Wood	1st Dynasty	l. 381; w. 298; h. 88		
ÄM 10748	Chair	Wood	18th Dynasty	h. 749		
ÄM 12551	Stool (folding)	Wood	18th Dynasty	h. 250		
ÄM 12553	Stool (round legged)	Wood	18th Dynasty	h. 209; w. 374		
ÄM 790	Stool (three- legged)	Wood	1200 B.C.	h. 250; l. 396		
ÄM 19359	Foot- or bathstool	Wood	850 B.C.	h. 89; l. 266;		
ÄM 791	Stool	Wood	19th Dynasty	h. 158; l. 342; w. 371		
ÄM 1177	Cosmetic box	Reed and rush	17th Dynasty	h. 427		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
ÄM 16436	Table for vases	Wood	5th Dynasty	h. 177		
ÄM 1176	Cosmetic box	Reed and rush	17th Dynasty	h. 383; d. 187; w. 240		
ÄM 10195	Cosmetic box, <i>Ra'mosi</i> from the tomb of <i>Sennedjem</i>	Wood	19th Dynasty	l. 260		
ÄM 17555	Box	Wood	19th Dynasty	l. 270		
ÄM 8265	Chair leg	Wood		h. 410		
ÄM 19516	Chair leg	Wood		h. 400		
ÄM 7638	Leg in shape of lion	Wood	N.K.	h. 410		
ÄM 8274	Leg in shape of horse	Wood	N.K.	h. 385		
ÄM 9664	Round leg	Wood	N.K.	h. 330		
ÄM 9665	Round leg	Wood	N.K.	h. 420		
ÄM 10727	Round leg	Wood	N.K.	h. 340		
ÄM 10728	Round leg	Wood	N.K.	h. 370		
ÄM 10729	Folding stool (two parts)	Wood	N.K.	h. 465		
ÄM 10741	Stool (animal legs)	Wood	N.K.	h. 185; w. 340; l. 410		
ÄM 12550	Stool (animal legs)	Wood	N.K.	h. 100; w. 275; l. 295		
ÄM 12552	Stool (folding)	Wood	N.K.	h. 390; w. 372; l. 535		
ÄM 14337	Stool	Wood	N.K.			
ÄM 14756	Stool with leather seat	Wood and leather	N.K.			

HOLLAND: RIJKSMUSEUM, LEIDEN

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
AH 52 H 549	Chair	Wood	1400 B.C.	h. 774; w. 457; d. 501		
AH 111 H 553	Round leg of stool	Wood	N.K.	h. 470; dia. 46		
AH 111 H 555	Round leg of stool	Wood	N.K.	h. 458; dia. 46		
AH 88 H 556	Lion shaped leg of mummy bier	Wood	R.P.	h. 365; w. 115; d. 120		
AH 88 H 557	Lion shaped leg of mummy bier	Wood	R.P.	h. 410; w. 113; d. 100		
AD 53 H 550	Stool (round legged)	Wood	18th Dynasty	h. 450; w. 465; d. 465		
AH 126 F 551	Folding stool fragment	Wood	N.K.	h. 482; w. 32; d. 42		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
A 1112	Bes shaped bed leg	Wood	R.P.?	h. 290; w. 95; d. 70		
F 1955/2/1	Leg of a chair or bed	Green glazed faience		h. 330; w. 70; d. 70		
F 1964/1/3	Bes shaped bed leg	Wood	R.P.	h. 655; w. 155; d. 65	V.III. 43	
F 1964/1/4	Bes shaped bed leg	Wood	R.P.	h. 655; w. 150; d. 67	V.III. 42	

HOLLAND: ALLARD PIERSON MUSEUM, AMSTERDAM

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
B. 9083	Bed leg	Wood	P.P.	h. 260; w. 70		

ITALY: EGYPTIAN MUSEUM, TURIN

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
8511	Stool (lattice), <i>Kha</i>	Wood	18th Dynasty	l. 419; w. 330	V.I. 76	
8512	Stool (lattice), <i>Kha</i>	Wood	18th Dynasty	l. 419; w. 330	V.I. 76	
8510	Stool (lattice), <i>Kha</i>	Wood	18th Dynasty	h. 381; l. 393; w. 330		
8468	Stool (lattice), <i>Kha</i>	Wood	18th Dynasty	h. 368; l. 381; w. 342		
8509	Stool (folding), <i>Kha</i>	Wood	18th Dynasty	h. 533; l. 596		
8507	Stool (round legged), <i>Kha</i>	Wood	18th Dynasty	h. 457; l. 495; w. 495		
8614	Stool (animal legged), <i>Kha</i>	Wood	18th Dynasty	h. 330; l. 368; w. 368	V.I. 50	
8505	Stool (three legged) <i>Kha</i>	Wood	18th Dynasty	h. 355; l. 393; w. 298		
8506	Stool, three legged) <i>Kha</i>	Wood	18th Dynasty	h. 317; l. 469; w. 393		
8333	Chair, <i>Kha</i>	Wood	18th Dynasty	h. 908; w. 393; d. 552		
8257	Table, <i>Kha</i>	Wood	18th Dynasty	h. 469; l. 698; w. 381		
8617	Box, <i>Kha</i>	Wood	18th Dynasty	h. 381; l. 483; w. 355	V.II. 41	
8213	Box, <i>Kha</i>	Wood	18th Dynasty	h. 356; l. 483; w. 381	V.II. 42	
8493	Wig box, <i>Kha</i>	Wood	18th Dynasty	h. 1,155; l. 482; w. 482		
8327	Bed, <i>Kha</i>	Wood	18th Dynasty	h. 698; l. 1,931; w. 850		
8629	Bed, <i>Kha</i>	Wood	18th Dynasty	h. 660; l. 1,742; w. 763		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
8258	Table, <i>Kha</i>	Reed	18th Dynasty	h. 476; l. 749; w. 381	V.I. 107	
8342	Table, <i>Kha</i>	Reed	18th Dynasty	h. 381; l. 690; w. 495		
8343	Table, <i>Kha</i>	Wood	18th Dynasty	h. 298; l. 787; w. 539	V.I. 114	
8432	Table, <i>Kha</i>	Wood	18th Dynasty	l. 787; w. 539	V.I. 110	
8514	Box, <i>Kha</i>	Painted wood	18th Dynasty	h. 343; l. 470; w. 305	V.II. 40	

POLAND: NARODOWE MUZEUM W WARSZAWIE

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
139068 MNW	Bed, wooden frame and legs	Wood and reed	18th Dynasty	l. 1,700; w. 750; h. 300	V.I. 38	
143344 MNW	Stool with concave seat (Louvre E.3858)	Wood	N.K.	l. 380, w. 370; h. 300	V.I. 73	
141432 MNW	Lion shaped leg	Wood	N.K.	h. 190		
139932 MNW	Animal shaped leg	Wood	N.K.	h. 280		

SWEDEN: MEDELHAVSMUSEET, STOCKHOLM

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
MM 10.122	Stool	Wood	1800	h. 130; w. 368; d. 368		
MM 10.232	Bedframe	Wood		l. 1,694	V.I. 30	V.I. 5
MM 10.350	Bull's leg	Wood		h. 240		
MM. 19.610	Lion's leg	Wood		h. 328		
MM 19.611	Lion's leg	Wood		h. 316		
MM 19.612	Lion's leg	Wood		h. 320		
MM 19.613	Lion's leg	Wood		h. 208		
MM 19.615	Gazelle's leg	Wood		h. 337		
MM 19.616	Bull's leg			h. 272		
MM 19.617	Bull's leg	Wood		h. 245		
MM 19.618	Gazelle's leg	Wood		h. 188		
MM 19.635	Stool	Wood		h. 245; l. 335; w. 310		
MM 19.668	Stool (lattice)	Wood		h. 465; l. 495	V.I. 75	
MM 19.671	Stool	Wood		h. 70; l. 347	V.I. 67	

SWEDEN: MUSEUM GUSTAVIANUM, UPPSALA UNIVERSITY

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
B-2	Stool	Wood	M.K.	l. 435	V.I. 49	
VM 247	Chair leg	Wood				
VM 248	Chair leg	Wood				

UNITED KINGDOM: ASHMOLEAN MUSEUM, OXFORD

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
E. 1149	Part of a leg in shape of bull's leg	Ivory	1st Dynasty Merneith	h. 41; w. 38		
E. 1283	Leg in form of bull's leg	Ivory	1st Dynasty Semerkhet	h. 155; w. 65		
E. 1317	Fragment of foot in form of bull's leg	Ivory	1st Dynasty	h. 39		
AN1912.603	Tray table	Wood	1st Dynasty	h. 56; l. 450; w. 280	V.I. 103–104	
AN1912.606	Sandal tray	Wood	Predynastic	h. 50; l. 340; w. 235		
AN1912.617	Bedframe	Wood	Predynastic	l. 1,480; w. 840	V.I. 27–29	
AN 1896–1908 E. 4162	Frame of a stool	Wood	9th–12th Dynasty	h. 264; w. 460; d. 460	V.I. 51–53	
AN1890.859	Chair	Wood	18th Dynasty	h. 600; l. 470; w. 570	V.I. 89–93	
AN1890.933	Leg of chair	Wood	N.K.	h. 410		
AN1921.1146	Chair leg in the form of lion's leg	Wood	Amarna Period	h. 90		
AN1872.930	Leg of a bed or stool	Wood	R.P.	h. 178		
AN1896–1908 E. 138–E. 1255	Furniture fragment	Wood	1st Dynasty Semerkhet	w. 57; l. 68	V.II. 2	

UNITED KINGDOM: BRITISH MUSEUM, LONDON

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
EA 2475	Stool (turned legs)	Wood		h. 272		
EA 2479	Chair	Wood	18th Dynasty	h. 730; d. 490; w. 410	V.I. 86	V.I. 29
EA 2480	Chair	Wood	18th Dynasty	h. 620; l. 420; w. 480	V.I. 88	V.I. 30
EA 2469	Table (three legged)	Wood	18th Dynasty	h. 540; l. 686; w. 460	V.I. 111–113	V.I. 34
EA 2470	Vase stand	Wood	18th Dynasty	h. 680; l. 465; w. 470	V.I. 116–117	V.I. 37
EA 2471	Vase stand	Wood	18th Dynasty	h. 382; w. 252	V.I. 118	V.I. 38
EA 2561	Box	Reed and rush	18th Dynasty	h. 350; l. 445; w. 260	V.II. 16–17	V.II. 48
EA 5897	Jewellery box	Wood	18th Dynasty	h. 121; l. 223; w. 196	V.II. 18–20	V.II. 49–50
EA 21574	Royal bed (fragments)	Wood	20th Dynasty	h. 460; w. 790	V.I. 1	
EA 2521	Leg of bed.	Wood	L.P.	h. 402; w. 89		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
EA 2522	Leg of bed	Wood	L.P.	h. 420; w. 89		
EA 29433	Leg of bed	Ivory	1st Dynasty	h. 115; w. 50; d. 27		
EA 2484	Couch leg	Wood	R.P.?	h. 241; d. 50		
EA 2485	Stool leg	Wood		h. 230		
EA 2494	Stool leg	Wood		h. 358		
EA 2511	Lion claw foot from a furniture leg	Wood		h. 64		
EA 2478	Two legs from folding stool	Wood		h. 430		
EA 2499	Leg from a folding stool	Wood		h. 190		
EA 2483	Chair leg	Wood	R.P.?	h. 343		
EA 2486	Chair leg	Wood		h. 256		
EA 2487	Chair leg	Wood		h. 158		
EA 2488	Chair leg	Wood	R.P.	h. 438		
EA 2489	Chair leg	Wood	R.P.	h. 447		
EA 2490	Chair leg	Wood	R.P.	h. 290		
EA 2496	Lion claw foot from a furniture leg	Wood		h. 110; w. 25	V.III. 30	
EA 2497	Chair leg	Wood		h. 93; d. 27		
EA 2498	Chair leg	Wood		h. 114		
EA 2518	Chair leg	Wood		h. 625		
EA 2519	Chair leg	Wood		h. 625		
EA 2520	Chair leg	Wood		h. 525		
EA 49123	Chair leg	Wood	N.K.	h. 340	V.III. 15, 34	V.III. 17
EA 49124	Chair leg	Wood	N.K.	h. 352		
EA 55438	Chair leg	Wood		h. 285		
EA 55439	Chair leg	Wood		h. 327		
EA 55440	Chair leg	Wood		h. 274		
EA 65256	Chair leg, <i>Sennefer</i> , TT 96	Wood		h. 285		
EA 2517	Stool seat	Wood	N.K.	d. 430; w. 432	V.III. 21–22	
EA 2501	Seat rail	Wood		h. 288		
EA 2495	Seat rail	Wood		h. 122		
EA 2509	Seat rail	Wood		l. 268		
EA 2491	Chair rail (fragment)	Wood		l. 478		
EA 2492	Chair (fragment)	Wood		l. 540		
EA 2500	Chair (fragment)	Wood		l. 185		
EA 23173	Chair (fragment)	Wood	N.K.	l. 146		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
EA 35530	Leg from casket, <i>Djer</i>	Ivory	1st Dynasty	h. 76		
EA 2505	Furniture fragment	Wood		l. 152		
EA 2506	Furniture fragment	Wood		l. 178		
EA 2507	Furniture fragment	Wood		l. 198		
EA 2508	Furniture fragment	Wood		l. 157		
EA 2512	Furniture fragment	Wood		l. 102		
EA 2513	Chair leg fragment	Wood		l. 60		
EA 2516	Furniture fragment	Wood	N.K.	l. 90		
EA 61210	Furniture fragment, Bes figure	Wood		l. 400		
EA 18196	Bedframe	Wood	N.K.	h. 307; l. 1,115; w. 710		
EA 46705	Stool	Wood		h. 110; l. 430; w. 360	V.I. 65–66	V.I. 22
EA 66652	Stool	Wood	Late N.K.	h. 345; d. 355; w. 390	V.III. 38–41	V.III. 21
EA 2476	Stool (lattice)	Wood	N.K.	h. 380; l. 370; w. 320		
EA 2482	Stool (three legged)	Wood	N.K.	h. 262; w. 455	V.III. 37	
EA 2481	Stool (three legged)	Wood	N.K.	l. 285; w. 360; h. 328	V.I. 69	
EA 2477	Stool (folding)	Wood	N.K.	h. 470; l. 550; w. 490		
EA 29284	Stool (folding), Tomb of Ani	Wood	18th Dynasty	h. 380; l. 450; w. 350	V.I. 57–60	V.I. 21
EA 37406	Stool (folding)	Wood	18th Dynasty	h. 470; w. 485	V.III. 31–32, 35	
EA 2472	Stool (round legged)	Wood	18th Dynasty	h. 360; l. 460; w. 460	V.I. 82–83	V.I. 23
EA 2473	Stool	Wood		h. 265	V.III. 20	
EA 2474	Stool (round legged)	Wood		h. 320; l. 380; w. 380	V.III. 23–24	
EA 24708	Cosmetic box	Wood	18th Dynasty	l. 360; w. 348; h. 352	V.II. 24–26	V.II. 52

UNITED KINGDOM: FITZWILLIAM MUSEUM, CAMBRIDGE

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
E.GA.4564.1943	Stool	Wood	N.K.	h. 180; l. 190; w. 270		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
E.GA.3517.1943	Palm support for a canopy	Bronze	N.K.	h. 360		
E.GA.2712.1943	Lion shaped leg	Wood	N.K.	h. 175		
E.GA.2700.1943	Furniture foot	Wood	N.K.	h. 100		
E.GA.3029.1943	Table	Diorite	N.K.	h. 40; l. 96; w. 65		
E.GA.4565.1943	‘Tyet’ knot from a piece of furniture	Wood	N.K.	h. 210		
E.GA.2880.1943	Hathor-head finial	Wood	N.K.	h. 267		
E.47.1900	Stool leg, reign of <i>Djer</i>	Wood	1st Dynasty	h. 93		
E.46.1900	Stool leg, reign of <i>Djer</i>	Ivory	1st Dynasty	h. 78		
E.38.1900	Stool leg in bovine form, reign of <i>Den</i>	Ivory	1st Dynasty	h. 45		
E.GA.121.1949	Furniture fragment	Wood	P.P.	d. 20; l. 273; w. 12		
E.67.c.1937	Bes shaped furniture ornament	Wood	N.K.	h. 114		

UNITED KINGDOM: MANCHESTER UNIVERSITY MUSEUM

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
5466	Bracket from bed	Wood	1st Dynasty	l. 125		
4229	Legs of a folding stool	Wood	18th Dynasty	h. 260; w. 250	V.I. 62–63	
542	Round leg from stool	Wood	18th Dynasty	h. 330; dia. 50	V.I. 79–81	
540	Chair leg	Wood	18th–19th Dynasty	h. 280	V.III. 10	
541	Chair leg	Wood	18th Dynasty	h. 170		
6228	Arm support from chair	Wood	21st Dynasty	l. 158		
4083a	Leg from a casket	Ivory	1st Dynasty	h. 34; l. 23		
4083b	Leg from a casket	Ivory	1st Dynasty	h. 26; l. 38		
4083c	Leg from a casket	Ivory	1st Dynasty	h. 42; l. 21		
4083d	Leg from a casket	Ivory	1st Dynasty	h. 43; l. 20		
6111	Seven fragments of wood from a casket	Wood	9th–10th Dynasty	w. 210		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
73	Box lid	Wood	12th Dynasty	l. 395; w. 207		
74	Side of box	Wood	12th Dynasty	l. 167; w. 44		
3722	Headrest	Wood	N.K., Gurob	w. 294; d. 87; h. 185	V.III. 1	
77	Circular lid	Wood	12th Dynasty	dia. 88		
78	Box lid	Wood	12th Dynasty	dia. 132		
260	Fragment of box	Wood	12th Dynasty	h. 270; l. 420		
1887a	Fragment of box	Wood	12th Dynasty	h. 30; l. 47		
1887b	Fragment of box	Wood	12th Dynasty	h. 21; l. 53		
1887c	Fragment of box	Wood	12th Dynasty	h. 5; l. 37; d. 3		
1887d	Fragment of box	Wood	12th Dynasty	h. 5; l. 37; d. 2		
6956	Lid of a basket	Reed	18th Dynasty	h. 275; l. 446		
6821	Wooden tablet	Wood	R.P.	h. 68; l. 94		
6655	Fragment of handle	Wood	12th Dynasty	h. 96; l. 111		
5449	Furniture fragment	Wood	1st Dynasty	l. 625; d. 142		
4226	Furniture fragment	Wood		h. 47; l. 85		
3973	Furniture leg	Ivory	1st Dynasty	h. 195		
7179	Furniture leg	Ivory	19th Dynasty	h. 186		
6229	Furniture leg in shape of a lion	Wood	N.K.	h. 104		
5429	Bedframe	Wood	1st Dynasty	h. 250; l. 1,760; w. 840	V.I. 31–34	V.I. 6
261	Stool	Wood	12th Dynasty	h. 270; l. 440; w. 165	V.I. 45–46	
7206	Stool	Limestone	12th Dynasty	h. 135; l. 350; w. 275		
5456	Small table	Wood	1st Dynasty	h. 60; l. 480; w. 278	V.I. 105–106	V.I. 33
5457	Tray	Wood	1st Dynasty	l. 400; w. 216; d. 50		
5437	Tray	Wood	1st Dynasty	h. 30; w. 225; d. 620		
75	Box	Wood	12th Dynasty	l. 148; w. 83; d. 40		
76a	Box	Wood	12th Dynasty	l. 110; w. 56; d. 35		
254	Box	Wood	12th Dynasty	l. 550; w. 410; d. 220		
255	Box	Wood	12th Dynasty	h. 250; l. 370; w. 240		
256a.b	Box with lid	Wood	12th Dynasty	h. 156; l. 670; w. 165		
257	Box	Wood	12th Dynasty	h. 370; l. 540; w. 250		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
259	Box	Wood	12th Dynasty	w. 240; l. 390; h. 160		
258	Box	Wood	12th Dynasty	h. 245; l. 360; w. 110		
7890	Box	Wood	12th Dynasty	h. 64		
6198	Box	Wood	12th Dynasty	h. 440; l. 315; w. 105		
188	Box	Wood	12th Dynasty	h. 155; w. 90		
543	Box	Wood	18th Dynasty	h. 40; l. 165; w. 105		
6980	Casket	Wood	18th Dynasty	l. 110; w. 84; h. 74		
6931	Casket fragments	Wood	19th Dynasty			
5685	Bed leg	Wood	1st Dynasty	l. 150; w. 42		
5436	Side pole from a small bed	Wood	1st Dynasty	l. 679; w. 63		
5465	Bed pole	Wood with some webbing	1st Dynasty	l. 1,255; w. 245	V.I. 24–25	

UNITED KINGDOM: PETRIE MUSEUM, UNIVERSITY COLLEGE, LONDON

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
UC 7919	Stool leg	Wood	18th Dynasty	l. 255		
UC 7457	Base and rail of a folding stool	Wood	12th Dynasty	l. 350; w. 410		
UC 7115	Veneer from an angle bracket	Wood	12th Dynasty	l. 125		
UC 7112	Furniture bracket	Wood	12th Dynasty	l. 144		
UC 7113	Large furniture bracket	Wood	12th Dynasty	l. 820; w. 205		
UC 7114	Small furniture bracket	Wood	12th Dynasty	l. 52		
UC 7921	Small lid of box	Wood	18th Dynasty			
UC 7122	Turned lid	Wood		h. 12; dia. 78		
UC 7123	Flat lid	Wood	12th Dynasty	dia. 50		
UC 7124	Flat lid	Wood	12th Dynasty	dia. 50		
UC 6911	Box	Wood and papyrus	22nd Dynasty	l. 130; w. 78; h. 107		
UC 7920	Leg from a stand	Wood	18th Dynasty	h. 555	V.III. 79	
UC 16139	Model bed	Wood	12th Dynasty	l. 490; w. 237	V.I. 37	
UC 17012	Stool	Alabaster	1st Dynasty, SD 81	l. 450; w. 333		
UC 17173	Stool	Wood	1st Dynasty, SD 80	h. 305; w. 610	V.I. 68	

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
UC 16532	Stool (three-legged)	Limestone	M.K.	h. 180; w. 440; d. 265		
UC 16530	Stool	Limestone	12th Dynasty	h. 145; l. 345; w. 290		
UC 7110	Stool	Wood	12th Dynasty	w. 255 h. 95		
UC 17168	Bed leg	Wood	1st Dynasty	h. 340		
UC 17165	Side pole of a bed	Wood	1st Dynasty	l. 1,230		
UC 17167	End pole of a bed	Wood	1st Dynasty	l. 560		
UC 17164	Bed pole	Wood	1st Dynasty, SD 81	l. 855		
UC 7918	Chair leg	Wood	18th Dynasty	h. 285	V.III. 11	
UC 6909	Chair leg	Wood	R.P.	h. 190		
UC 7365	Chair leg	Wood	12th Dynasty	h. 222		
UC 9294	Pole	Wood	Badarian			
UC 7456	Stool leg	Wood	11th or 12th Dynasty	h. 185		
UC 7339	Stool leg	Wood	12th Dynasty	h. 165		
UC 7111	Curved leg from a stool	Wood	12th Dynasty	l. 350		
UC 7532	Stool leg	Wood	12th Dynasty	h. 366		
UC 27997	Toy bedframe	Wood	3rd century A.D.	l. 255		
UC 8934A	Furniture leg	Wood	N.K.	l. 143; w. 41		
UC 8934B	Furniture leg	Wood	N.K.	l. 335; w. 22		
UC 8934C	Furniture leg	Wood	N.K.	l. 305; w. 70		
UC 16756	Folding headrest	Wood	N.K., Gurob	h. 280	V.III. 2, 4–7	
UC 58988	Stool leg, Type Sm	Wood	N.K., Gurob	h. 310; dia. 40	V.III. 8–9	
UC 71984	Stool legs (4), Type Sj	Wood	N.K.	l. 420; dia. 40	V.III. 9, 25–26, 29	
UC 36478	Chair leg	Wood	N.K.	h. 470; w. 75; t. 60	V.III. 13–14	V.III. 16
UC 71985	Stool stretchers (4)	Wood	N.K.	l. 430	V.III. 27–29	
UC 30579	Openwork panel from an offering stand	Wood	N.K.	h. 300; w. 100	V.III. 80	

UNITED KINGDOM: NATIONAL MUSEUM OF SCOTLAND, EDINBURGH

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
1909.527.22	Stool (with woven linen seat)	Wood and linen	17th Dynasty	h. 256; w. 444; l. 444		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
1956.107	Stool (three legged)	Wood coated with gesso	18th or 19th Dynasty	h. 223; w. 343	V.I. 70	
1956.106	Chair (low-backed)	Wood, woven seat	18th Dynasty	h. 610; w. 458 d. 445	V.I. 95	
1909.527.29	Stool	Cedar wood	17th Dynasty	h. 102; l. 279; w. 273		
1909.527.29a	Stool	Cedar wood	17th Dynasty	h. 153; l. 330; w. 305		
1956.110	Stool (low)	Wood, woven seat	Early 18th Dynasty	h. 127; l. 305; w. 305	V.I. 54	
1956.111	Stool (square legs)	Wood, woven seat	N.K.	h. 305; l. 356; w. 356	V.I. 72	
1956.109	Stool (round legs)	Wood, leather seat	18th Dynasty	h. 229; l. 362; w. 330		

UNITED STATES OF AMERICA: METROPOLITAN MUSEUM OF ART, NEW YORK

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
MMA 01.4.91.	Leg	Ivory	1st Dynasty	h. 61; w. 40		
MMA 06.1162.1	Leg	Ivory	1st Dynasty	h. 170; d. 58		
MMA 26.7.1283	Leg	Ivory	1st Dynasty	h. 60		
MMA 06.1162.2	Leg	Ivory	1st Dynasty	h. 142		
MMA 26.7.1282	Leg	Ivory	1st Dynasty	h. 155		
MMA 12.187.52	Bedframe	Wood	1st Dynasty	h. 288; l. 950; w. 670		
MMA 12.182.58	Stool (folding)	Wood	M.K. or N.K.	h. 357; d. 377; w. 315	V.I. 55	
MMA 14.10.3	Stool	Wood	12th–18th Dynasty	h. 133; l. 311; w. 297		
MMA 86.1.39	Bed	Wood	1st Dynasty	l. 1,610; h. 270		
MMA 36.3.56 a, b	Box, <i>Hatnefer</i>	Wood (painted)	18th Dynasty	h. 440; w. 361; l. 698		
MMA 36.5.A.B.	Box	Wood (painted)	18th Dynasty	h. 483; l. 762		
MMA 86.1.8	Box	Wood (gessoed), <i>Sennedjem</i>	19th Dynasty	h. 160; l. 330; w. 330		V.II. 79
MMA 26.7.1438	Toilet box, <i>Kemeni</i>	Wood and ebony, ivory, veneet, silver fitting	12th Dynasty	h. 203; l. 283; w. 177	V.II. 12	V.II. 46
MMA 16.1.1	Jewel box, <i>Sithathoriunet</i>	Wood with gold and silver fittings	12th Dynasty	h. 370; l. 465; w. 330	V.II. 11	V.II. 45
MMA 14.10.5	Table	Wood	17th or 18th Dynasty	h. 450; l. 635; w. 311	V.I. 108	
MMA 36.3.152	Chair, <i>Hatnefer</i>	Hardwood	18th Dynasty	h. 530; w. 500		
MMA 12.182.28	Chair	Wood	18th Dynasty	h. 588; w. 433	V.I. 94	
MMA 14.10.4	Stool (round legs)	Wood	18th Dynasty	h. 392; w. 405	V.I. 84	

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
MMA 90.6.254	Bier (model)					
MMA 15.2.8	Model bed	Limestone	18th Dynasty	l. 172; w. 65		
MMA 31.3.99	Model bed	Pottery	18th Dynasty	l. 140; w. 80		
MMA 20.2.13 a–c	Model bed (folding)	Wood	18th Dynasty	l. 308; h. 130		
MMA 15.3.1167 a–b	Box	Wood	18th Dynasty	h. 275; w. 435		
MMA 22.1.679	Bed leg					
MMA 22.1.681	Bed leg					
MMA 86.1.7	Box (gessoed), <i>Sennedjem</i>	19th Dynasty		l. 315; w. 315; h. 150		V.II. 80
MMA 12.187.53A–B	Box					
MMA 22.1.696–7	Furniture fragment					
MMA 22.1.717	Rod from a piece of furniture					
MMA 22.1.718	Half column from a piece of furniture					
MMA 22.1.10056	Furniture fragments (two discs)					
MMA 28.3.21	Furniture fragment					
MMA 36.3.238	Furniture fragment					
MMA 11.151.41–42	Two uraeus					
MMA 20.2.14a	Model bed leg (turned)	Wood	18th Dynasty	h. 70		
MMA 20.2.14b	Model bed leg (turned)	Wood	18th Dynasty	h. 73		
MMA 22.1.680 A–B	Leg and stretcher					
MMA 22.1.688	Upper part of uraeus					
MMA 22.1.698	Furniture fragment					
MMA 22.1.701	Furniture fragment					
MMA 22.1.702	Girdle-tie figure					
MMA 15.3.1074	Furniture fragment					
MMA 31.3.18A–B	Box with lid					
MMA 15.3.1166A–B	Box					

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
MMA 15.3.1168a–b	Box	Wood	M.K.	h. 290; w. 480; d. 245		
MMA 16.1.2 a.b.	Box, <i>Sithathoriunet</i>	Wood	12th Dynasty	h. 233; w. 362; d. 253		
MMA 12.181.209a–b	Box	Wood	18th Dynasty	l. 505; w. 298; h. 202		
MMA 16.10.317	Chair leg					
MMA 36.3.55 a.b.	Box with flat lid	Wood	18th Dynasty	l. 750; w. 465		
MMA 32.3.412	Chair leg					
MMA 16.10.380	Chair leg					
MMA 25.3.308a–b	Fragments of an inlaid chair	Wood	18th Dynasty			
MMA 68.58	Chair (<i>Reniseneb</i>)	Wood, ivory and ebony	18th Dynasty	h. 862		
MMA 32.3.392	Peg	Wood	Ptolemaic			
MMA 23.6.75A.B	Panels	Wood	26th Dynasty			
MMA 26.7.1284	Furniture leg	Ivory	O.K.			
MMA 11.151.640	Furniture leg					
MMA 1970.184.4	Upper part of column	Ivory	M.K.	h. 43		
MMA 15.3.1075	Furniture leg					
MMA 15.3.1077	Leg fragment					
MMA 36.3.236 a–g	Chair fragments	Wood	18th Dynasty	l. 298		
MMA 36.3.237A–B	Two chair legs					
MMA 15.3.1104	Furniture, box fragment					
MMA 1970.53	Furniture ornament, openwork	Copper alloy	26th Dynasty	h. 278		
MMA 26.7.1012	Foot of a throne	Faience	L.P.	h. 110		
MMA Inst. 69.7	Head of Hathor					
MMA 05.4.146–8	Disc ornaments		R.P.			
MMA 26.4.125–126	Two furniture handles					
MMA 10.130.136	Figure from furniture					
MMA 03.6.2	Furniture attachment	Bronze	6th century B.C.	h. 114		
MMA 04.2.22	Furniture ornament					
MMA 32.3.420	Furniture fragment					

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
MMA 31.1.108–109	Two stands					
MMA 12.182.57	Stool	Wood	M.K.	h. 127; w. 390		
MMA 16.10.280	Stool leg					
MMA 12.181.208	Stool					
MMA 12.181.319	Stool	Wood	18th Dynasty			
MMA 25.3.309	Stool fragments	Wood	18th Dynasty			
MMA 28.3.20A–B	Two fragments of folding stool					
MMA 35.3.1	Stool					
MMA 12.182.49	Stool (folding)	Wood	18th Dynasty	h. 325; w. 405		
MMA X 387	Duck's head from folding stool	Wood	18th Dynasty	h. 348		
MMA 15.3.1073	Stool fragment					
MMA 25.3.307	Fragments of inlaid table					
MMA 22.3.39	Fragment of throne foot	Wood	26th Dynasty	h. 153; w. 18		
MMA 04.2.404	Model throne	Bronze	27th Dynasty	h. 72		
MMA 23.6.26	Model throne	Copper alloy	P.P.	h. 88		
MMA 30.8.45 a–c	Panel from throne	Wood	18th Dynasty	h. 251		
MMA 1977.170	Lion furniture leg	Faience	L.P.	h. 345		

UNITED STATES OF AMERICA: BROOKLYN MUSEUM, NEW YORK

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
36.290.2	Furniture leg	Wood	O.K.	h. 226		
36.290.3	Furniture leg	Wood	O.K.	h. 191		
36.290.4	Furniture leg	Wood	1st Dynasty	h. 145		
37.40E	Chair	Wood	18th Dynasty	h. 900; w. 456; d. 473	V.I. 87	
37.42E	Lion shaped leg	Wood	25th Dynasty	h. 353; w. 90; d. 140		
37.259E	Arm of a chair	Wood	L.P.	h. 360; w. 235		
37.260E	Arm of a chair	Wood	L.P.	h. 405; w. 235		
37.604E.a–b	Cylindrical cosmetic box with cover	Wood	18th Dynasty?	h. 153; dia. 76		
37.44E	Folding stool, seat missing	Wood	18th Dynasty	l. 337; h. 294		
02.229	Cosmatic box	Wood	R.P.	h. 53		
16.77	Physician's box	Wood	M.K.	w. 53; l. 75		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
37.615E	Bottom half of cosmetic box	Wood	18th Dynasty	h. 15; w. 44; l. 142		
37.617E	Half of container	Wood	Late Period	h. 23; w. 54; l. 142		
37.619E	Container	Ivory	18th Dynasty	h. 16; w. 42; l. 83		
71.621E	Part of cosmetic box	Ivory	18th Dynasty	h. 38; l. 133; t. 10		
49.55.a-b	Cosmetic box with separate cover	Wood and ivory		l. 124; h. 26		
37.261E	Lion's head from a piece of furniture	Wood	27th Dynasty	h. 127; w. 118; d. 119		
37.41E	Table	Wood	18th Dynasty	h. 320; l. 521; w. 255	V.I. 109	
37.45E	Stool (lattice)	Wood	18th Dynasty	h. 243; l. 267; w. 229	V.I. 74	
02.230.a-b	Cosmetic box with separate cover	Wood	R.P.	h. 72; dia. 63		
37.600.a-b	Cosmetic box with swivel lid	Wood	18th Dynasty	h. 102; dia. 74		
37.601E	Cosmetic box (recumbent gazelle)	Wood	18th Dynasty	l. 195; w. 64; h. 65		
05.309	Lion shaped chair leg	Wood	18th Dynasty	l. 389; d. 42; w. 31		
36.290.1	Furniture leg	Wood		h. 271		
53.81.a-b	Cosmetic box	Faience	L.P.	l. 70; w. 32; h. 42		
70.134.2	Six fragments of a cosmetic box	Wood and ebony	P.P.	w. 53; t. 4; l. 72		
74.45	Lid of cosmetic box	Wood	18th Dynasty	h. 79; w. 63; d. 5		

**UNITED STATES OF AMERICA: PHOEBE A. HEARST MUSEUM OF ANTHROPOLOGY,
UNIVERSITY OF CALIFORNIA, BERKELEY**

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
6-1523	Furniture legs. Nag el-Deir Cem. 3500 Tomb. 87	Wood	2nd or 3rd Dynasty	h. 920; w. 50; t. 30		
6-1517	Box fragments. Nag el-Deir Cem. 3500 Tomb. 87	Wood	2nd or 3rd Dynasty			

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
6-1677	Storage box (fragments) Nag el-Deir Cem. 3500 Tomb. 237	Wood	2nd or 3rd Dynasty	l. 530; h. 215; t. 23		
6-1705	Footstool, Nag el-Deir Cem. 3500 Tomb. 246	Wood	N.K.	l. 420; w. 235; t. 70		
6-1808	Twenty furniture fragments. Nag el-Deir Cem. 3500 Tomb. 256	Wood	2nd or 3rd Dynasty	l. 280; w. 250; t. 23		
6-1809	Box lid. Nag el-Deir Cem. 3500	Wood	2nd or 3rd Dynasty	l. 280; w. 240		
6-1824	Ten fragments of chair, Nag el-Deir Cem. 3500 Tomb. 256	Wood	2nd or 3rd Dynasty			
6-1857	Chair fragments, Nag el-Deir Cem. 3500 Tomb. 274	Wood	2nd or 3rd Dynasty	l. 260		
6-2164	Storage box, Nag el-Deir Cem. 3500 Tomb. 683	Wood	2nd or 3rd Dynasty	l. 285; w. 270; t. 10		
6-2246	Furniture fragments, Nag el-Deir Cem. 3500 Tomb. 901	Wood	2nd or 3rd Dynasty			
6-2441	Furniture leg? Nag el-Deir Cem. 3500 Tomb. 1246	Wood	18th Dynasty	l. 180; d. 40		
6-13935	Stool (tripod), Nag el-Deir Cem. 100 Tomb. 471	Wood	6th to 12th Dynasty	d. 225		
6-15873	Box fragments, Nag el-Deir	Wood	2nd or 3rd Dynasty			
6-16010	Box (no lid), Nag el-Deir	Wood	8th to 12th Dynasty	l. 340; w. 240; h. 85		
6-16011	Box (no lid), Nag el-Deir	Wood	8th to 12th Dynasty	l. 330; w. 225; t. 80		

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
6-16012	Box panel with end strip. Nag el-Deir	Wood	8th to 12th Dynasty	l. 405; w. 325; t. 22		
6-17147 a.b.	Box with lid, Nag el-Deir	Wood	8th to 12th Dynasty	l. 410; w. 310; h. 180		
6-2062	Chair, Nag el-Deir Cem. 3500 Tomb. N3746	Wood	18th Dynasty	h. 690; w. 415; d. 420	V.I. 85	
6-149-49	Stool leg, Nag el-Deir Cem 9000	Wood				

UNITED STATES OF AMERICA: MUSEUM OF FINE ARTS, BOSTON

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
13.3987	Casing for bed leg	Gold	1700–1550 B.C.	h. 145; w. 97; t. 51		
13.4001	Bed leg in the shape of a bull's leg, Kerma	Wood	1700–1550 B.C.	h. 350; w. 130; t. 40		
13.4002	Bed leg in the shape of a bull's leg, Kerma	Wood	1700–1550 B.C.	h. 390; w. 160; t. 40		
13.4003	Bed leg in the shape of a bull's leg, Karma	Wood	1700–1550 B.C.	h. 300		
13.4004	Bed leg in the shape of a bull's leg, Kerma	Wood	1700–1550 B.C.	h. 340		
20–1389 a.b.c.	Bed legs, Kerma	Wood	1700–1550 B.C.	a: h. 430 b: h. 430 c: h. 430		
20.1390 a.b.	Bed legs, Kerma	Wood	1700–1550 B.C.	a: h. 331 b: h. 312		
20.1391 a.b.c.d.	Bed legs, Kerma, damaged by ants	Wood	1700–1550 B.C.			
21.2815	Leg in form of a duck	Bronze	698–690 B.C.	h. 561; w. 365; t. 130		
72.4263	Carved post for a piece of furniture	Wood	Coptic	h. 660; w. 80; t. 50		
72.4259	Stool	Wood	N.K.	h. 320; w. 374		
72.4265	Four round legs from a stool with one stretcher	Wood	N.K.	h. 262; w. 368; d. 372		
23.152	Folding stool	Wood	Meroitic	h. 395		

UNITED STATES OF AMERICA: ORIENTAL INSTITUTE, UNIVERSITY OF CHICAGO

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
E.13694	Stool with feline legs	Wood	1090–633 B.C.	h. 495; w. 390; d. 315		
E.12169	Bedframe with bovine shaped legs	Wood	1st Dynasty			
E.418	Chair (turned legs)	Wood	26th Dynasty	h. 426; w. 411		
E.10550	Chair	Wood	18th Dynasty	h. 460; w. 445; d. 455		

UNITED STATES OF AMERICA: THE KELSEY MUSEUM OF ANCIENT AND MEDIAEVAL ARCHAEOLOGY, THE UNIVERSITY OF MICHIGAN, ANN ARBOR

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
1884a	Chair leg (turned), Sedment Tomb 419	Wood	18th Dynasty	l. 240; d. 41		
1884b	Chair leg (turned) Sedment Tomb 419	Wood	18th Dynasty	l. 236; d. 41		

UNITED STATES OF AMERICA: WALTERS ART GALLERY, BALTIMORE

<i>Inventory number</i>	<i>Description</i>	<i>Material</i>	<i>Date</i>	<i>Size in mm</i>	<i>Plate</i>	<i>Figure</i>
71.520	Furniture leg	Ivory	O.K.	h. 42; w. 13		

Bibliography

- Aldred, C. 1954. 'Fine Wood-Work', in Charles Singer, E.J. Holmyard and A.R. Hall (editors). *History of Technology, I. From Early Times to the Fall of the Ancient Empires*. Oxford.
- Baker, H.S. 1966. *Furniture in the Ancient World: Origins & Evolution, 3100–475 B.C.* London.
- Beinlich, H. and M. Saleh. 1989. *Corpus der Hieroglyphischen Inschriften aus dem Grab des Tutanchamun*. Oxford: Griffith Institute.
- Breasted, J.H. 1906. *Ancient Records of Egypt, Vol. IV*. Chicago: The University of Chicago Press.
- Bruyère, B. 1934. *Rapport Sur Les Fouilles de Deir el Médineh (1931-1932)*. Cairo: IFAO.
- Carter, H and A.C. Mace 1923. *The tomb of Tut-Ankh-Amen, Volume I*. London.
- Carter, H and A.C. Mace 1927. *The tomb of Tut-Ankh-Amen, Volume II*. London.
- Carter, H and A.C. Mace 1933. *The tomb of Tut-Ankh-Amen, Volume III*. London.
- Carter, H. 1972. *The Tomb of Tutankhamun*. London: Sphere Books Limited.
- Cartwright, C.R. 1997. 'Egyptian mummy portraits: examining the woodworkers' craft', in M. Bierbrier (editor) *Portraits and Masks. Burial Customs in Roman Egypt*. London: British Museum Press.
- Davies, N. de G. 1905. *Rock Cut Tombs at El Amarna*. London.
- Davies, N. de G. 1907. *The Tomb of Nakht at Thebes*. New York.
- Davies, N. de G. 1922. *The Tomb of Puyemre*. New York.
- Davies, N. de G. 1923. *The Tombs of Two Officials of Tuthmosis the Fourth*. London.
- Davies, N. de G. 1925. *The Tomb of Two Sculptors at Thebes*. New York.
- Davies, N. de G. 1927. *Two Ramesside Tombs at Thebes*. New York.
- Davies, N. de G. 1930. *The Tomb of Ken-Amun at Thebes*. New York.
- Davies, N. de G. 1933. *The tombs of Menkheperresonb, Amenmosē, and another*. London. EES.
- Davies, N. de G. 1933A. *The tomb of Nefer-hotep at Thebes*. New York.
- Davies, N. de G. 1941. *The Tomb of the Vizier Ramose*. London. EES.
- Davies, N. de G. 1943. *The Tomb of Rekh-mi-Rē at Thebes*. New York: Plantin Press.
- Davies, Nina de G. 1963. *Scenes from some Theban tombs*. Theban Tomb Series IV. Oxford.
- Desroches-Noblecourt, C. 1963. *The Life and Death of a Pharaoh: Tut-Ankh-Amun*. London.
- Driel-Murray, C.V. 2000. 'Leatherwork and skin products'. in P. Nicholson and I. Shaw, editors. *Ancient Egyptian Materials and Technology*. Cambridge, 299–319.
- Eaton-Krauss, M. 2008. *The thrones, chairs, stools, and footstools from the tomb of Tutankhamun*. Griffith Institute, Oxford.
- Emery, W.B. 1938. *The Tomb of Hemaka*. Cairo.
- Emery, W.B. 1949. *Great Tombs of the First Dynasty, Volume I*. Cairo: Government Press.
- Fischer, H.G. 1986. *Stuhl*, in Helck, F.W. and Westendorf, W. LÄ, 6: 91–99.
- Fischer, H.G. 1996. 13. *A Chair of the Early New Kingdom, Egyptian Studies III, Varia Nova*. Metropolitan Museum of Art, New York: 141–159.
- Fox, P. 1951. *Tutankhamun's Treasure*. Oxford.
- Gale, R., Gasson, P., Hepper, N., and G. Killen. 2000. 'Wood'. in P. Nicholson and I. Shaw (editors). *Ancient Egyptian Materials and Technology*. Cambridge, 334–371.
- James, T.G.H. 2000. *Tutankhamun: The Eternal Splendour of the Boy Pharaoh*. London and New York.
- Killen, G. 1980. *Ancient Egyptian Furniture, 4000–1300 BC, I*. Warminster: Aris and Phillips.
- Killen, G. 1994. *Ancient Egyptian Furniture, Boxes*,

- Chests and Footstools, Volume II.* Warminster: Aris and Phillips.
- Killen, G. 1997. Wood Turning in Ancient Egypt. *JTHS*, 10: 10–25.
- Killen, G. 2003. Ancient Try and Mitre Squares. *Newsletter 80, Spring 2003*. TATHS.
- Killen, G. 2015. 'Woodworking'. in C. Graves-Brown (editor). *Egyptology In The Present: Experiential and Experimental Methods in Archaeology*, The Classical Press of Wales, 91–111.
- Killen, G. 2017A. *Ancient Egyptian Furniture, 4000–1300 BC, I*. Oxford: Oxbow Books. Second edition.
- Killen, G. 2017B. *Ancient Egyptian Furniture, Boxes, Chests and Footstools, II*. Oxford: Oxbow Books. Second edition.
- Killen, G. 2017C. *Ancient Egyptian Furniture, Ramesside Furniture, III*. Oxford: Oxbow Books.
- Krzyszowska, O. and R. Morkot, R. 2000. 'Ivory and related materials'. in P. Nicholson and I. Shaw. (editors). *Ancient Egyptian Materials and Technology*. Cambridge, 320–331.
- Lepsius, C.R. 1900. *Denkmaeler aus Aegypten und Aethiopen*, Text Vol. II, Leipzig.
- Lucas A. 1962. (ed. J.R. Harris). *Ancient Egyptian Materials and Industries*. London: Edward Arnold.
- Mercer, S.A.B. 1939. *The Tell el-Amarna Tablets*. Toronto.
- McLeod W. 1970. *Composite Bows from the tomb of Tut'ankhamun*. Oxford.
- Naville, E. 1904. *The Temple of Deir el Bahari*. London: EEF.
- Naville, E. 1898. *The Temple at Deir el-Bahari*. London: EEF.
- Newberry, P. 1893. *Beni Hasan I, London*. Kegan Paul, Trench, Trübner.
- Petrie, W.M.F. 1891. *Illahun, Kahun and Gurob*. London: EEF.
- Petrie, W.M.F. 1912. *The Labyrinth, Gerzeh and Mazghuneh*. London. BSAE.
- Petrie, W.M.F. 1913. *Tarkhan I and Memphis V*. London: BSAE.
- Petrie, W.M.F. 1917. *Tools and Weapons*. London: BSAE.
- Petrie, W.M.F. 1925. *Tombs of the courtiers and Oxyrhynchos*. London: BSAE.
- Petrie, W.M.F. 1937. *Funeral Furniture of Egypt with Stone and Metal Vases*. London: BSAE.
- Quibell, J.E. 1908. *Tomb of Yuua and Thuiu*. Cairo: IFAO.
- Quibell, J.E. 1913. *Excavations at Saqqara, 1911–12: The Tomb of Hesy*. Cairo: IFAO.
- Quibell, J.E. 1923. *Excavations at Saqqara, 1912–13: Archaic Mastabas*. Cairo.
- Reeves, C. N. 1990. *The Complete Tutankhamun: The King, The Tomb, The Royal Treasure*. London.
- Reisner, G.A. and C.M. Firth 1910. *Archaeological Survey of Nubia, 1907–08*. Cairo.
- Reisner, G.A. 1923. *Kerma IV–V*. Massachussetts.
- Reisner, G.A. 1923A. *Kerma VI*. Massachussetts.
- Reisner, G.A. and W.S. Smith 1955. *A History of the Giza Necropolis, The Tomb of Hetep-Heres the mother of Cheops. Volume II*. Cambridge, Massachussetts: Harvard University Press.
- Saad, Z. 1957. *Ceiling Stelae in second dynasty tombs from excavations at Helwan*. Cairo: IFAO.
- Save-Söderbergh, T. 1957. *Four Eighteenth Dynasty Tombs*. Theban Tomb Series I. Oxford.
- Serpico, M. and R. White 2000. 'Oil, fax and wax'. in P. Nicholson and I. Shaw (editors). *Ancient Egyptian Materials and Technology*. Cambridge, 390–429.
- Serpico, M. 2000, 'Resins, amber and bitumen'. in P. Nicholson and I. Shaw, editors. *Ancient Egyptian Materials and Technology*. Cambridge, 430–474.
- Seton-Williams, M.V. 1980. *Toutankhamon. Le Trésor de Tout*. Paris.
- Schiaparelli, E. 1924 and 1927. *Relazione sui lavori della Missione archeologica italiana in Egitto, anni 1903–1920, La tomba intatta dell'architetto Cha nella necropoli di Tebe*, 2 volumes. Torino: Museo di antichità.
- Silverman, D.P. 1978. *Masterpieces of Tutankhamun*. New York.
- Smith, W.S. 1946. *A History of Egyptian Sculpture and Painting in the Old Kingdom*. London. Second edition.
- Steindorff, G. 1913. *Das Grab des Ti*. Leipzig.
- Svarth, D. 1998. *Egyptisk Möbelkunst fra Faraotiden/ Egyptian Furniture-making in the Age of the Pharaohs*. Skippershoved.
- Wanscher, O. 1968. *The Art of Furniture: 5000 Years of Furniture and Interiors*. London.
- Wanscher, O. 1980. *Sella curulis: the folding stool: an ancient symbol of dignity*. Copenhagen.
- Winlock, H. E. 1955. *Models of daily life in Ancient Egypt: from the tomb of Meket-Re at Thebes*. Metropolitan Museum of Art, Harvard Press.